INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

To:	Interested Parties
Date:	November 18, 2015
From:	Matthew Stuckey, Chief Permits Branch Office of Air Quality
Source Name:	Tate & Lyle Ingredients Americas LLC
Permit Level:	Title V – Significant Permit Modification
Permit Number:	157-36009-00003
Source Location:	2245 North Sagamore Parkway Lafayette, Indiana 47904
Type of Action Taken:	Modification at an existing source

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the matter referenced above.

The final decision is available on the IDEM website at: http://www.in.gov/apps/idem/caats/
To view the document, select Search option 3, then enter permit 36009.

If you would like to request a paper copy of the permit document, please contact IDEM's central file room:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

Mr. Richard L. Dickinson
Tate & Lyle Ingredients Americas LLC
2200 East Eldorado Street
Decatur, IL 62525

November 18, 2015

Re: 157-36009-00003
Significant Permit Modification to
Part 70 Renewal No.: T157-27029-00003

Dear Mr. Dickinson:

Tate & Lyle Ingredients Americas LLC was issued Part 70 Operating Permit Renewal No. T157-27029-00003 on July 3, 2012 for a stationary wet corn milling plant located at 2245 North Sagamore Parkway, Lafayette, IN 47904. An application requesting changes to this permit was received on May 22, 2015. Pursuant to the provisions of 326 IAC 2-7-12, a Significant Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified. The permit references the below listed attachment(s). Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this modification:

Attachment A: 40 CFR 60, Subpart Dc: New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units

Attachment B: Reserved

Attachment C: 40 CFR 63, Subpart EEEE: National Emission Standards for Hazardous Air Pollutants - Organic Liquids Distribution: Requirements

Attachment D: 40 CFR 63, Subpart ZZZZ: Stationary Reciprocating Internal Combustion Engines NESHAP

Attachment E: 40 CFR 63, Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants - Industrial, Commercial, and Institutional Boilers and Process Heaters

Previously issued approvals for this source containing these attachments are available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

If you have any questions on this matter, please contact Heath Hartley, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 at 317-232-8217 or 1-800-451-6027, and ask for extension 2-8217.

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

Attachments: Modified Permit and Technical Support Document
cc: File - Tippecanoe County
Tippecanoe County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

Part 70 Operating Permit Renewal

OFFICE OF AIR QUALITY

TATE & LYLE INGREDIENTS AMERICAS LLC
2245 North Sagamore Parkway
Lafayette, Indiana 47904

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T157-27029-00003	
Issued by: Original Signed Jenny Acker, Section Chief Permits Branch, Office of Air Quality	Issuance Date: July 3, 2012 Expiration Date: July 3, 2017

First Administrative Amendment No. 157-32390-00003, issued on February 14, 2013.
First Significant Permit Modification No. 157-34105-00003, issued on October 16, 2014.

Significant Permit Modification No.: 157-36009-00003	
Issued by: Jenny Acker, Section Chief, Permits Branch Office of Air Quality	Issuance Date: November 18, 2015 Expiration Date: July 3, 2017

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary wet corn milling plant.

Source Address:	2245 North Sagamore Parkway, Lafayette, IN 47904
General Source Phone Number:	(765) 448-7123
SIC Code:	2046
County Location:	Tippecanoe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, under Section 112 of the Clean Air Act Nested Source with fossil fuel fired boilers totaling more than two hundred fifty million (250,000,000) British thermal units per hour heat input, as 1 of 28 Source Categories, within a non-listed source

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

(a) Corn Receiving and Handling Operations, consisting of:

(1) One (1) Railcar Corn Dump Hopper, identified as 12V101, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(2) One (1) Truck Corn Dump Hopper, identified as 12V102, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(3) One (1) Corn Transfer Conveyor, identified as 8U1, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(4) One (1) Bucket Corn Elevator, identified as 12U2, constructed in 2006, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(5) Two (2) Corn Transfer Conveyors, identified as 12U4 and 12U5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(6) Five (5) Corn Storage Silos, identified as 13V1, 13V2, 13V3, 13V4 and 13V5, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(7) Three (3) Corn Transfer Conveyors, identified as 13U6, 13U7, and 13U8, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(8) One (1) Corn Cleaner Fill Conveyor, identified as 14U12, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(9) One (1) Vibrating Corn Cleaning System, identified as 14J5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(10) One (1) Corn Cleanings Pneumatic Transfer, identified as 14C300, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(11) One (1) Bucket Elevator from Corn Cleaner to Steeps, identified as 14U9, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(b) Wet Milling Operations, consisting of:

(1) Twelve (12) Corn Steep Tanks, identified as 14V3 through 14V14, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(2) Two (2) Corn Steep Tanks, identified as 14V15 and 14V16, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(3) Three (3) Corn Steep Tanks, identified as 14V400, 14V401, and 14V402, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(4) One (1) High DS Starch Filter, identified as 18F510, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(5) Two (2) Third Stage Germ Wash Screens, identified as 15J203, constructed in 2012 and 15J204, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(6) One (1) Light Steepwater Receiver Tank, identified as 14V19, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(7) One (1) High DS Starch Tank, identified as 18V520, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(8) One (1) High DS Starch Wash Water Tank, identified as 18V522, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(9) Ten (10) Grit Starch Separator (Third Grind) Screens, identified as 15J15 through 15J19, 15J21, and 15J22, constructed in 1990, and 15J20, 15J23, and 15J38, constructed in 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(10) Two (2) Grit Starch Separator Screens, identified as 15J39 and 15J40, approved in 2014 for construction, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(11) Nine (9) Sixth Stage Fiber Wash Screens, identified as 15J86, 15J87, 15J88, 15J89, 15J220, and 15J221, constructed in 1966, and 15J241, 15J242, and 15J243, constructed in 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(12) Two (2) First Stage Germ Wash Screens, identified as 15J100 and 15J101, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(13) One (1) Second Stage Germ Wash Screen, identified as 15J99, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(14) One (1) Second Pass Germ Feed Tank, identified as 15V25, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(15) One (1) Grit Starch Feed Tank, identified as 15V26, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(16) One (1) Fiber Supply Tank, identified as 21V33, constructed in 2000, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(17) One (1) Steeped Corn Separator, identified as 15J5A, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(18) One (1) First Pass Germ Feed Tank, identified as 15V23, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(19) One (1) Second Stage Germ Wash Screen, identified as 15J53, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(20) Three (3) Second Grind Dewatering Screens, identified as 15J14 and 15J3, constructed in 1966, and 15J248 constructed in 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(21) One (1) First Grind Receiver Tank, identified as 15V22, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(22) One (1) Second Grind Receiver Tank, identified as 15V24, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(23) One (1) Third Grind Discharge Tank, identified as 15V27, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(24) One (1) Clamshell Wash Water Tank, identified as 15V2, constructed in 1991, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack

17.

(25) One (1) Steeped Corn Pump Tank, identified as 14V17, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(26) One (1) Germ Water Tank, identified as 15V139, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(27) One (1) Steepwater Head Tank, identified as 14V18, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(28) One (1) Steep Acid Tank, identified as 14V20, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(29) Five (5) Fiber Wash Receiver Tanks, identified as 15V110 through 15V114, constructed in 1966, providing aspiration to 1st through 5th Stage Fiber Wash Screens, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(30) One (1) Process Water Tank, identified as 15V30, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(31) One (1) Primary Wash Water Tank, identified as 15V41, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(32) One (1) Wash Water Surge Tank, identified as 15V38, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(33) One (1) Primary Feed Tank, identified as 15V34, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(34) One (1) Primary Underflow Tank, identified as 15V35, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(35) One (1) Gluten Thickener Feed Tank, identified as 15V36, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(36) One (1) Heavy Gluten Tank, identified as 15V37, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(37) One (1) Clarifier Feed Tank, identified as 15V40, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(38) One (1) MST Feed Tank, identified as 15V31, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(39) One (1) Gluten Vacuum Filter, identified as 21F5, approved in 2014 for construction, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(40) One (1) Gluten Vacuum Filter Pump, identified as 21C105, approved in 2014 for construction, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(41) One (1) Gluten Vacuum Filter, identified as 21F6, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(42) One (1) Gluten Vacuum Filter Pump, identified as 21C6, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(43) One (1) Gluten Vacuum Filter, identified as 21F7, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(44) One (1) Gluten Vacuum Filter Pump, identified as 21C7, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(45) One (1) Gluten Vacuum Filter, identified as 21F8, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(46) One (1) Gluten Vacuum Filter Pump, identified as 21C8, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(47) One (1) Gluten Vacuum Filter, identified as 21F9, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(48) One (1) Gluten Vacuum Filter Pump, identified as 21C9, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(49) One (1) Gluten Vacuum Filter, identified as 21F10, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(50) One (1) Gluten Vacuum Filter Pump, identified as 21C10, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(51) One (1) Fiber Dewatering Press Feed Conveyor, identified as 21U1, constructed in 1990, providing aspiration to the Fiber Press Dewatering Screens, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(52) One (1) Fiber Dewatering Press Discharge Conveyor, identified as 21U302, constructed in 2007, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(53) One (1) Gluten Filter Bowl Drain Tank, identified as 21V159, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(54) One (1) Gluten Filter Wash Bar Trough Drain Tank, identified as 21V59, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(55) One (1) Fiber Filtrate Tank, identified as 21V58, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(56) One (1) Heavy Steepwater Tank, identified as 21V56, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(57) One (1) Monitor Tank, identified as 15V210, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(58) One (1) Germ Press Discharge Conveyor, identified as 21U45, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(c) Feed/Meal/Germ Production Operations, consisting of:

(1) One (1) Fiber Flash Dryer, identified as 21D501, constructed in 2007. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 21F501-21F502, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, constructed in 2007, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(3) Two (2) Natural Gas Fired Thermal Oxidation Units, identified as 48F201 and 48F202, constructed in 2006, with a heat input capacity of 5 million Btu per hour, each.

(4) One (1) Corn Cleanings Receiver, identified as 21F304, loaded pneumatically via Corn Cleanings Pneumatic Transfer, identified as 08C304, constructed in 2007, with emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202; before exhausting to stack 17.

(5) One (1) RST Feed Dryer, identified as 21D301, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F301, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(6) One (1) natural gas or biogas fired Gluten Flash Dryer, identified as 48D101, constructed in 2007, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 48F101-48F102, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(7) One (1) 48D101 Dryer Air Conveying Line, identified as AC8, constructed in 1966, with emissions controlled by integral product collector/baghouse 21F36, and exhausting to stack 145.

(8) One (1) RST Germ Dryer, identified as 21D401, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F401, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(9) Two (2) Water Tube Germ Cooler Rotary Airlock Valves, identified as 21D3 (formerly Germ Dryer 21D3), loaded pneumatically via Germ Pneumatic Transfer 21C404 and Germ Cooler Cyclone 21F404, constructed in 2007, with pneumatic transfer blowback air controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(10) One (1) Feed Cooler, identified as 21D8 (formerly Meal Dryer 21D8), constructed in 1966 and modified in 2007. PM and PM_{10} emissions are controlled by product collector/cyclone 21F310, then PM and PM_{10} emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501, and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(11) One (1) Feed Mill, identified as 21G351, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(12) One (1) Feed Mill, identified as 21G352, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(13) One (1) Feed Milling Loadout Conveyor, identified as 21U314, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(14) One (1) Feed Loadout Hopper, identified as 21V125, permitted in 2005, with emissions aspirated to the inlet of Feed Cooler 21D8 to be used as cooling air.

(15) One (1) Feed Storage Bin, identified as 8V121, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F1, and exhausting to stack 110.

(16) One (1) Feed Storage Bin, identified as 8V122, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F2, and exhausting to stack 111.

(17) One (1) Feed Storage Bin, identified as 8V123, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F3, and exhausting to stack 112.

(18) One (1) Feed Storage Bin, identified as 8V124, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F4, and exhausting to stack 113.

(19) One (1) Meal Storage Bin, identified as 8V62, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F62, and exhausting to stack 114.

(20) One (1) Meal Storage Bin, identified as 8V63, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F63, and exhausting to stack 115.

(21) One (1) Germ Storage Bin, identified as 8V53, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F53, and exhausting to stack 116.

(22) One (1) Germ Storage Bin, identified as 8V54, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F54, and exhausting to stack 117.

(23) Two (2) Co-Product Loadout Conveyors, identified as 8U39 and 8U41, constructed in 1966, with emissions aspirated to Meal Storage Bin 8V62, and controlled by bin vent 8F62, and exhausting to stack 114.

(24) Two (2) Air Conveying Lines to Loadout, identified as AC23 and AC24, constructed in 1966, with emissions controlled by integral product receiver/baghouse 12F39, and exhausting to stack 125.

(25) One (1) Rail Loadout Conveyor, identified as 12U11, constructed in 1991, with emissions controlled by baghouse 12F40, and exhausting to stack 3.

(d) Syrup Refining Operations, consisting of:

(1) One (1) HCl Storage Tank (Concentrated), identified as 9V101, constructed in 1995, with emissions controlled by scrubber 9F102, and exhausting to stack 156.

(2) One (1) Acid Reject Flash Chamber, identified as 18V312, constructed in 1966, with emissions uncontrolled, and exhausting to stack 320.

(3) One (1) Jet Conversion Flash Chamber, identified as 18V413, constructed in 1966 and approved in 2011 for the production of OS starches, with SO_2 and VOC emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(4) One (1) Jet Conversion Flash Chamber, identified as 18V513, approved in 2014 for construction, for the production of maltodextrins, with SO_2 and VOC emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(5) One (1) Soda Ash Storage Tank, identified as 9V144, loaded pneumatically via Soda Ash Unloading System, identified as 9C40, constructed in 1966, with emissions controlled by eductor/scrubber 9E1, and exhausting to stack 149.

(6) One (1) Filteraid Storage Silo, identified as 9V31, loaded pneumatically via Filteraid Unloading System, identified as 9C31, constructed in 1966, with emissions controlled by bin vent 9F31, and exhausting to stack 123.

(7) One (1) Filteraid Conveying System to Precoat Makeup Tank, identified as 18C18, constructed in 1966, with emissions controlled by integral product receiver/baghouse 18F118, and exhausting to stack 129.

(8) One (1) Powdered Carbon Storage Silo, identified as 9V30, loaded pneumatically via Powdered Carbon Unloading System, identified as 9C30, constructed in 1966, with emissions controlled by bin vent filter 09F30, and exhausting to stack 124.

(9) One (1) Powdered Carbon Transfer Receiver, identified as 18F101, approved in 2014 for construction, to pneumatically transfer carbon from the Powdered Carbon Storage Silo, identified as 9V30, to the precoat vacuum filters. The pneumatic air will exhaust through blower 18C101 to stack 462.

(e) Starch Modification Operations, consisting of:

(1) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V115, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 11.

(2) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V116, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 12.

(3) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V222, constructed in 1973 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 31.

(4) One (1) PO Reactor, identified as 45V223, constructed in 1973, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(5) One (1) PO Reactor, identified as 45V240, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(6) One (1) PO Reactor, identified as 45V241, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(7) One (1) PO Reactor, identified as 45V242, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(8) One (1) PO Reactor, identified as 45V243, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(9) One (1) PO Reactor, identified as 45V246, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(10) One (1) PO Reactor, identified as 45V247, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(11) One (1) PO Reactor, identified as 45V248, constructed in 1991, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(12) One (1) PO Reactor, identified as 45V270, constructed in 1995, with emissions controlled by scrubber 45F212, exhausting to stack 50.

(13) One (1) PO Reactor, identified as 45V271, constructed in 1995, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(14) One (1) PO Reactor, identified as 45V280, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(15) One (1) PO Reactor, identified as 45V281, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(16) Five (5) Propylated Starch Reactors, identified as 45V292, 45V293, 45V294, 45V295, and 45V296, constructed in 2007, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(17) One (1) Propylated Starch Reactor, identified as 45V298, approved in 2014 for construction, with emissions controlled by scrubber 45F212, exhausting to stack

50, and equiped with emergency pressure relief vent, identified as 45V298-PRV, that will exhaust to stack 417.

(18) One (1) Propylated Starch Reactor, identified as 45V299, approved in 2014 for construction, with emissions controlled by scrubber 45F212, exhausting to stack 50, and equiped with emergency pressure relief vent, identified as 45V299-PRV, that will exhaust to stack 417.

(19) One (1) Oxidized Starch Reactor, identified as 18V173, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(20) One (1) Oxidized Starch Reactor, identified as 18V178, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(21) One (1) Oxidized Starch Reactor, identified as 18V274, approved in 2014 for construction, with emissions uncontrolled, and exhausting to stack 455.

(22) One (1) Oxidized Starch Reactor, identified as 18V174, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(23) One (1) Oxidized Starch Reactor, identified as 18V175, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(24) One (1) Tri-Polyphosphate Storage Bin, identified as 9V103, constructed in 1988, with emissions controlled by bin vent 9F103, and exhausting to stack 68.

(25) One (1) Sodium Sulfate Storage Bin, identified as 45V250, loaded pneumatically via Sodium Sulfate Unloading System, identified as 09C200 and 09F200, constructed in 1985, with emissions controlled by two bin vents, 45F25 and 45F25A, and exhausting to stack 64.

(26) One (1) Flash 1 Filtrate Reineveldt Centrifuge, identified as 40Y1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(27) One (1) Flash 1 Slurry Hold Tank, identified as 40V1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(28) One (1) Flash 1 Starch Hold Tank, identified as 40V50, constructed in 1996, with emissions uncontrolled, and exhausting to stack 289.

(29) One (1) Dryer Starch Feed Conveyor/Flash 1 Paddle Mixer, identified as 40U2, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(30) Two (2) Flash 2 Slurry Hold Tanks, identified as 40V20 and 40V21, constructed in 1990, with emissions uncontrolled, and exhausting to stack 80.

(31) Three (3) Flash 2 Larox Filters, identified as 40F51, 40F52, and 40F53, constructed in 1995, with emissions uncontrolled, and exhausting to stack 249.

(32) One (1) Flash 2 Larox Filter, identified as 40F54, constructed in 2002, with emissions uncontrolled, and exhausting to stack 249.

(33) One (1) Flash 2 Air Release Tank, identified as 40V15, constructed in 1995, with emissions uncontrolled, and exhausting to stack 250.

(34) One (1) Flash 2 Air Release Tank, identified as 40V16, constructed in 2002, with emissions uncontrolled, exhausting to stack 251.

(35) One (1) Dryer Starch Feed Conveyor/Flash 2 Paddle Mixer, identified as 40U23, constructed in 1995, with emissions uncontrolled, exhausting to stack 249.

(36) Two (2) Flash 3 Slurry Hold Tanks, identified as 43V71 and 43V72, constructed in 1995, with emissions uncontrolled, and exhausting to stack 273.

(37) Three (3) Flash 3 Larox Filters, identified as 43F71, 43F72, and 43F73, constructed in 1995, with emissions uncontrolled, and exhausting to stack 260.

(38) One (1) Flash 3 Larox Air Release Tank, identified as 43V85, constructed in 1995, with emissions uncontrolled, and exhausting to stack 261.

(39) One (1) Flash 3 Larox Air Release Tank, identified as 43V86, constructed in 1995, with emissions uncontrolled, and exhausting to stack 318.

(40) One (1) Flash 4 Slurry Hold Tank, identified as 54V401, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 419.

(41) One (1) Flash 4 Larox Filter Feed Tank, identified as 54V403, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting inside via stack 420.

(42) Two (2) Flash 4 Larox Filters and one (1) Air Release Tank, identified as 54F421/54F422/54V421, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 421.

(43) One (1) Flash 4 Larox Filter and Air Release Tank, identified as 54F4MM/54V4MM, approved in 2014 for construction with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 423.

(44) Two (2) Spray Dryer 1 Feed Tanks, identified as 30V1 and 30V2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 195.

(45) Three (3) Spray Dryer 1 Process Tanks, identified as 40V11, 40V12, and 40V14, constructed in 1988, with emissions uncontrolled, and exhausting to stack 222.

(46) One (1) Spray Dryer 2 Feed Tank, identified as 46V297, constructed in 2006, with emissions uncontrolled, and exhausting to stack 434.

(47) One (1) Spray Dryer 2 Sweco Tank, identified as 46V201, constructed in 2006, with emissions uncontrolled, and exhausting to stack 436.

(48) One (1) Spray Dryer 2 Waste Surge Tank, identified as 46V213, constructed in 2006, with emissions uncontrolled, and exhausting to stack 424.

(49) One (1) Spray Dryer 2 Under Flow Tank, identified as 46V204, constructed in 2006, with emissions uncontrolled, and exhausting to stack 435.

(50) Four (4) Belt Dryer Feed Tanks, identified as 45V117 through 45V120, constructed in 1966, with emissions uncontrolled, and exhausting to stack 180.

(f) Starch Reaction Operations, consisting of:

(1) One (1) Starch Feed Bin, identified as 33V1, constructed in 1995, with emissions controlled by bin vent 33F1, and exhausting via vent 236 to stack 355.

(2) One (1) Starch Feed Bin, identified as 33V2, constructed in 1995, with emissions controlled by bin vent 33F2, and exhausting via vent 237 to stack 355.

(3) One (1) Catalyst Bin, identified as 33V5, constructed in 1995, with emissions controlled by bin vent 33F5, and exhausting to stack 239.

(4) One (1) Low Pressure Dry Starch Reactor, identified as 33R1, constructed in 1995, with emissions controlled by baghouses 33F101 and 33F102, and exhausting to stack 238.

(5) One (1) High Pressure Dry Starch Reactor, identified as 33R2, constructed in 1995, with emissions controlled by baghouses 33F201 and 33F202, and exhausting to stack 240.

(6) One (1) Reactor Surge Bin, identified as 50V61, loaded pneumatically via Pneumatic Conveyor, identified as 33C8, constructed in 1997, with emissions controlled by bin vent 50F161, and exhausting via vent 241 to stack 361.

(7) One (1) Reactor Surge Bin, identified as 50V62, loaded pneumatically via Pneumatic Conveyor, identified as 33C4, constructed in 1997, with emissions controlled by bin vent 50F162, and exhausting via vent 242 to stack 361.

(8) One (1) Dry Starch Product Screening Receiver, identified as 50F45, constructed in 1995, with emissions controlled by integral product receiver/baghouse 50F45, and exhausting via vent 262 to stack 355.

(9) One (1) Dry Starch Product Screening Receiver, identified as 50F48, constructed in 1997, with emissions controlled by integral product receiver/baghouse 50F48, and exhausting via vent 243 to stack 355.

(10) One (1) Reactor 2 Mill, identified as 50G1, constructed in 1995, permitted in 2011, with emissions controlled by baghouse 50F48, and exhausting via vent 243 to stack 355.

(11) One (1) Dry Starch Blend Bin, identified as 33V42, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F42, and exhausting via vent 244 to stack 355.

(12) One (1) Dry Starch Blend Bin, identified as 33V43, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F43, and exhausting via vent 245 to stack 355.

(13) One (1) Dry Starch Blend Bin, identified as 33V40, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F40, and exhausting via vent 246 to stack 355.

(14) One (1) Dry Starch Blend Bin, identified as 33V41, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F41, and exhausting via vent 247 to stack 355.

(15) One (1) Additives Mill, identified as 50G2, constructed in 1995, permitted in 2011, with emissions aspirated to the intakes of Bins 33V42, 33V43, 33V40, and 33V41.

(g) Starch Drying and Handling Operations, consisting of:

(1) One (1) Adipic Acid Storage Bin, identified as 43V90, loaded pneumatically via truck unloading, constructed in 1996, with emissions controlled by bin vent 43F90, and exhausting to stack 274.

(2) One (1) Starch Flash Dryer #1, identified as 40D1, constructed in 1986, with a heat input capacity of 14.4 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F1 and 40F2 and scrubber 40F3, and exhausting to stack 69.

(3) One (1) Pneumatic Product Transfer, identified as 40F7, constructed in 1986, with emissions controlled by integral product receiver/baghouse 40F7 and scrubber 40F3, and exhausting to stack 69.

(4) One (1) Pneumatic Conveying to Mill Feed Receiver, identified as 25F1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F1, and exhausting to stack 147.

(5) One (1) Belt Dryer Mill, identified as 25G1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F2, and exhausting to stack 146.

(6) One (1) Starch Storage Bin #8, identified as 7V8, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F8, and exhausting to stack 71.

(7) One (1) Starch Storage Bin #9, identified as 7V9, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F9, and exhausting to stack 72.

(8) One (1) Starch Flash Dryer #2, identified as 40D20, constructed in 1990 and modified in 1991, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F20 through 40F25 and scrubber 40F26, and exhausting to stack 73.

(9) One (1) Grinder Feed Collector, identified as 40F27, constructed in 1990, and exhausting to the intake of bins 7V20, 7V21, 7V22 and 7V23.

(10) One (1) Starch Grinder/Mill #1, identified as 40G20, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F28, and exhausting via vent 286 to stack 360.

(11) One (1) Starch Grinder/Mill #2, identified as 40G21, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F29, and exhausting via vent 287 to stack 360.

(12) One (1) Starch Product Bin #20, identified as 7V20, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F20, and exhausting to stack 76.

(13) One (1) Starch Product Bin #21, identified as 7V21, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F21, and exhausting to stack 77.

(14) One (1) Starch Product Bin #22, identified as 7V22, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F22, and exhausting to stack 78.

(15) One (1) Starch Bin #33, identified as 7V23, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1995, with emissions controlled by bin vent 7F33, and exhausting to stack 267.

(16) One (1) Starch Flash Dryer #3, identified as 43D71, constructed in 1995, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 43F81 through 43F86 and scrubber 43F80, and exhausting to stack 265.

(17) One (1) Flash #3 Mill, identified as 40G88, constructed in 1996, with emissions controlled by integral product receiver/baghouse 40F88, and exhausting to stack 266.

(18) One (1) Starch Bin #34, identified as 7V34, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F34, and exhausting to stack 268.

(19) One (1) Starch Bin #35, identified as 7V35, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F35, and exhausting to stack 269.

(20) One (1) Starch Blend Bin #91, identified as 7V91, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F91, and exhausting to stack 345.

(21) One (1) Starch Blend Bin #92, identified as 7V92, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F92, and exhausting to stack 346.

(22) One (1) Starch Roll Dryer #1, identified as 41D1, constructed in 1986, with emissions uncontrolled, and exhausting to stack 91.

(23) One (1) Starch Roll Dryer #2, identified as 41D2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 92.

(24) One (1) Starch Roll Dryer #3, identified as 41D3, constructed in 1986, with emissions uncontrolled, and exhausting to stack 93.

(25) One (1) Starch Roll Dryer #4, identified as 41D4, constructed in 1993, with emissions uncontrolled, and exhausting to stack 94.

(26) One (1) Starch Roll Dryer #5, identified as 41D5, constructed in 1995, with emissions uncontrolled, and exhausting to stack 232.

(27) One (1) Starch Roll Dryer #6, identified as 41D6, constructed in 1995, with emissions uncontrolled, and exhausting to stack 233.

(28) One (1) Starch Roll Dryer #7, identified as 41D7, constructed in 1997, with emissions uncontrolled, and exhausting to stack 234.

(29) One (1) Starch Roll Dryer #8, identified as 41D8, constructed in 2000, with emissions uncontrolled, and exhausting to stack 235.

(30) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F200, constructed in 1986, with emissions controlled by product receiver/baghouse 41F200, and exhausting to the intake of mill 41G200.

(31) One (1) Roll Dryer Mill, identified as 41G200, constructed in 1986, with emissions controlled by integral product receiver/baghouse 41F210, and exhausting via vent 96 to stack 355.

(32) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F201, constructed in 1993, with emissions controlled by product receiver/baghouse 41F201, and exhausting to the intake of mill 41G201.

(33) One(1) Roll Dryer Mill, identified as 41G201, constructed in 1993, with emissions controlled by integral product receiver/baghouse 41F211, and exhausting via vent 100 to stack 355.

(34) One (1) Product Bin #10, identified as 41V10, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F10, and exhausting to stack 97.

(35) One (1) Product Bin #11, identified as 41V11, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F11, and exhausting to stack 98.

(36) One (1) Bulk Bag Dump Station, identified as 41F13, constructed in 2000, with emissions controlled by bin vent 41F13, and exhausting indoors to stack 344.

(37) One (1) 41 Building House Vacuum System, identified as 41F133, constructed in 2012, with emissions controlled by baghouse 41F133, and exhausting to stack 445.

(38) One (1) Spray Dryer #1, identified as 30D1, constructed in 1984, with a heat input capacity of 24 MMBtu/hr, with emissions controlled by integral product collector/cyclones 30F7 and 30F8 and product receivers/baghouses 30F2 and 30F3, and exhausting to stack 82.

(39) One (1) Product Transfer to Bins #14 and #15, identified as 41C145, constructed in 1987 and approved for modification in 2013, with emissions controlled by

intermediate product collector/baghouse 30F133 using blower 30C133, exhausting to the product transfer system and integral product collector/baghouses 41F14 and 41F15, respectively, and exhausting via vent 85 to stack 355.

(40) One (1) Product Bin #14, identified as 41V14, constructed in 1987, with emissions controlled by bin vent 41F16, and exhausting to stack 87.

(41) One (1) Product Bin #15, identified as 41V15, constructed in 1987, with emissions controlled by bin vent 41F17, and exhausting to stack 88.

(42) One (1) Regular Starch Belt Dryer D4, identified as 16D4, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F26 and 17F78, and exhausting to stack 177.

(43) One (1) Belts Product Conveying Mill Product to Bins #4, and #5, identified as 7F25, constructed in 1966, with emissions controlled by integral product collector/baghouse 7F25, and exhausting to stack 103.

(44) One (1) Product Bin #4, identified as 7V47, constructed in 1966, with emissions controlled by bin vent 7F70, and exhausting to stack 106.

(45) One (1) Product Bin #5, identified as 7V46, constructed in 1966, with emissions controlled by bin vent 7F69, and exhausting to stack 105.

(46) One (1) Spray Agglomeration System, identified as 50D101, constructed in 2001, with a heat input capacity of 6.2 MMBtu/hr, with emissions controlled by integral product collector/cyclones 50F111 and 50F112; and product receiver/baghouse 50F102, and exhausting via vent 349 to stack 361.

(47) One (1) Bulk Bag Feed #1 Dump Station, identified as 50V111, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(48) One (1) Bulk Bag Feed #2 Dump Station, identified as 50V112, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(49) One (1) Agglomeration Blender Receiver/Baghouse, identified as 50F106, loaded pneumatically via Pneumatic Conveyor, identified as Feed Blower 50C107, constructed in 2001, with emissions controlled by integral product collector/baghouse 50F106, and exhausting via vent 350 to stack 361.

(50) One (1) Natural Gas Fired Spray Dryer #2, identified as 46D200, constructed in 2006, with a heat input capacity of 25 million Btu per hour, with PM and PM_{10} emissions controlled by integral cyclones 46F221 through 46F224 and baghouses 46F231 through 46F232, and exhausting via vent 360 to stack 360. Nitrogen oxide (NO_x) emissions are controlled by low-NO_x burners rated at 0.04 lb/MMBtu.

(51) One (1) Product Transfer to Milling, identified as 30F13, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F13, and exhausting to the intakes of bins 41V45, 41V46, 41V47, and 33V44.

(52) One (1) Dryer Mill, identified as 30G1, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F15, and exhausting via vent

84 to stack 360.

(53) One (1) Product Bin #45, identified as 41V45, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F45, and exhausting to stack 226.

(54) One (1) Product Bin #46, identified as 41V46, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F46, and exhausting to stack 255.

(55) One (1) Product Bin #47, identified as 41V47, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F47, and exhausting via vent 432.

(56) One (1) Starch Product Bin #44, identified as 33V44, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 1995, with emissions controlled by bin vent 33F44, and exhausting to stack 248.

(57) One (1) Starch Roll Dryer #301, identified as 19D301, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 405A and 405B.

(58) One (1) Starch Roll Dryer #302, identified as 19D302, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 406A and 406B.

(59) One (1) Starch Roll Dryer #303, identified as 19D303, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 407A and 407B.

(60) One (1) Starch Roll Dryer #304, identified as 19D304, approved in 2014 for construction, with emissions uncontrolled, and exhausting to stacks 408A and 408B.

(61) One (1) Starch Roll Dryer #305, identified as 19D305, approved in 2014 for construction, with emissions uncontrolled, and exhausting to stacks 409A and 409B.

(62) One (1) Roll Dryer Mill Feed Collector, identified as 19F400, constructed in 2006, with emissions controlled by product collector/cyclone 19F400, and exhausting to the intake of Mill 19G401.

(63) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by integral product collector/baghouse 19F402, and exhausting to stack 366.

(64) One (1) Product Transfer to Bins #17 and #18, identified as 41C35, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F20 and 41F21, respectively, and exhausting via vent 86 to stack 355.

(65) One (1) Product Bin #17, identified as 41V17, constructed in 1987, with emissions controlled by bin vent 41F22, and exhausting to stack 89.

(66) One (1) Product Bin #18, identified as 41V18, constructed in 1987, with emissions controlled by bin vent 41F23, and exhausting to stack 90.

(67) #2 Starch Agglomerator, identified as 52D201, approved in 2014 for construction, controlled by four product collection cyclones (52F211 - 52F214) and baghouse

52F202, and exhausting to stack 361. #2 Starch Agglomerator system consists of the following:

(A) One (1) dryer equipped with a direct-fired natural gas low NOx burner, with heat input capacity of 20 MMBtu/hr.

(B) One (1) mechanical fluid bed, identified as 52Y202, aspirated to the inlet of the agglomerator.

(C) One (1) fines recycle system, identified as 52C207, transferring product to the inlet of the agglomerator.

(D) One (1) #5 tote packing system with head hopper, identified as 52V245 and tote packer, identified as 52Z245 aspirated to the Packer #6 House Dust Collector, identified as 56F602, exhausting via vent 381 to stack 380.

(E) One (1) #7 bag packing system with head hopper, identified as 52V214 and bag packer, identified as 56Z700 aspirated to four product collection cyclones (52F211-52F214) and baghouse 52F202, and exhausting to stack 361. General aspiration of the packer #7 bag conveying equipment is by the packer #6 House Dust Collector, identified as 56F602.

(68) Two (2) product storage bins, identified as 52V250 and 52V251, controlled by bin vent filters, identified as 52F250 and 52F251, and exhausting to stacks 401 and 402. Only one of the two product storage bins can receive product from the agglomerator at any time.

(69) #4 Starch Flash Dryer, identified as 54D450, approved in 2014 for construction, controlled by six product collection cyclones, identified as 54F451-54F456, followed by a wet scrubber, identified as 54F460, and exhausting to stack 388, with a bottlenecked capacity of 250 million lb/year of propylated starch. #4 Starch Flash Dryer System consists of the following:

(A) One (1) dryer equipped with direct-fired natural gas low-NOx burner, with heat input capacity of 40 MMBtu/hr.

(B) One (1) Starch Densifier Mill Surge Hopper, identified as 54V470, controlled by bin vent filter, identified as 54F471, and exhausting to stack 389.

(C) Three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, equipped with bin vent filters, identified as 54F440, 54F441, and 54F4CC, and exhausting to stacks 385, 386, and 387.

(D) One (1) Product Bin #1, identified as 07V50, approved in 2014 for construction, formerly associated with Special Belt Dryer 16D5, with emissions controlled by bin vent 07F73, and exhausting to stack 109.

(E) One (1) Product Bin #2, identified as 07V49, approved in 2014 for construction, formerly associated with Special Belt Dryer 16D5, with emissions controlled by bin vent 07F72, and exhausting to stack 108.

(F) One (1) Product Bin #3, identified as 07V48, approved in 2014 for construction, formerly associated with Special Belt Dryer 16D5, with emissions controlled by bin vent 07F71, and exhausting to stack 107.

(h) Starch Packaging and Loadout Operations, consisting of:

(1) One (1) Product Bin #6/House Vacuum System, identified as 17V6, constructed in 1984, with emissions controlled by integral product receiver/cyclone 17F5 and baghouse 17F6, and exhausting via vent 190 to stack 177.

(2) One (1) Reprocess Bag Dump, identified as 17U58, constructed in 1997, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(3) One (1) Reprocess Tote Dump, identified as 17U59, constructed in 1997, permitted in 2011, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(4) One (1) Product Transfer to Main Packer #1, identified as 16F5, constructed in 1966, with emissions controlled by integral product collector/baghouse 16F5, and exhausting to stack 102.

(5) One (1) Cationic Product Receiver for Packer #1, identified as 17F27, constructed in 1966, with emissions controlled by integral baghouse 17F27, and exhausting to stack 102.

(6) One (1) Packer #1, identified as 17Z38, constructed in 1966, with emissions controlled by cyclone 17F9 and baghouse 17F10, and exhausting to stack 177.

(7) One (1) Packer #1 Reject Bag Dump, identified as 17V04, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F10, and exhausting to stack 177.

(8) One (1) Bag Packer #2, identified as 17Z01, constructed in 1995, with emissions controlled by integral product collector/baghouse 17F01, and exhausting to stack 177.

(9) One (1) Bag Packer #2 House Dust Collector, identified as 17F02, constructed in 1995, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(10) One (1) Packer #2 Reject Bag Dump, identified as 17V05, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(11) One (1) Roll Dried Starch Product Transfer to Bag Packer #3 (41Z5), identified as 41F18, constructed in 2007, with emissions controlled by integral baghouse 41F18, and exhausting via vent 186 to stack 355.

(12) One (1) Roll Dried Starch Products Bag Packer #3, identified as 41Z5, constructed in 2007, with emissions controlled by baghouse 41F18, and exhausting via vent 186 to stack 355.

(13) One (1) Spray Cook Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F7, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7, and exhausting via vent 184 to stack 355.

(14) One (1) O.S. Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F181, constructed in 2007, with emissions controlled by integral baghouse 41F181, and exhausting via vent 184 to stack 355.

(15) One (1) Spray Cook/O.S. Starch Products Bag Packer #3, identified as 41Z3, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7 or baghouse 41F181, and exhausting via vent 184 to stack 355.

(16) One (1) Malto Product Transfer to Bag Packer #3 (41Z1), identified as 41F182, constructed in 2007, with emissions controlled by integral baghouse 41F182, and exhausting via vent 428 to stack 355.

(17) One (1) Malto Products Bag Packer #3, identified as 41Z1, constructed in 2007, with emissions controlled by baghouse 41F182, and exhausting via vent 428 to stack 355.

(18) One (1) Dry Starch Reacted Product Transfer to Bag Packer #3 (41Z2), identified as 41F183, constructed in 2007, with emissions controlled by integral baghouse 41F183, and exhausting via vent 429 to stack 355.

(19) One (1) Dry Starch Reacted Products Bag Packer #3, identified as 41Z2, constructed in 2007, with emissions controlled by baghouse 41F183, and exhausting via vent 429 to stack 355.

(20) One (1) Bag Packer #3 House Dust Collector, identified as 41F186, constructed in 2007, with emissions controlled by baghouse 41F186, and exhausting via vent 430 to stack 355.

(21) One (1) Bag Packer #3 House Dust Collector, identified as 41F44, constructed in 1995, with emissions controlled by baghouse 41F44, and exhausting via vent 256 to stack 361.

(22) One (1) Bag Packer #4, identified as 17Z03, constructed in 1995, with emissions controlled by integral product collector/baghouses 17F03 and 17F04, and exhausting via vent 332 to stack 356.

(23) One (1) House Dust Collection System for Bag Packer #4, identified as 17F15, constructed in 1995, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(24) One (1) Packer #4 Reject Bag/Tote Dump, identified as 17V06, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(25) One (1) Bag Packer #6 System, approved in 2014 for construction, consisting of the following:

(A) One (1) Packer #6 Product Receiver, identified as 56F601, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(B) One (1) Packer #6 Head Hopper, identified as 56V600, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(C) One (1) Bag Packer #6, identified as 56Z600, consisting of four (4) bag packing stations, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(D) One (1) Reprocess Bag Dump Transfer Line, identified as 56C630, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(E) One (1) Packer #6 House Dust Collector, identified as 56F602, controlling emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6 and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, and exhausting via vent 381 to stack 380.

(F) One (1) Reprocess Bag Dump, identified as 56V630 with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack 380.

(G) One (1) Packer #6 Screenings Transfer System, identified as 56C604, with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack 380.

(26) One (1) Product Transfer for Bulk Bagger #1 (16J44), identified as 16F25, constructed in 1988, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(27) One (1) Bulk Bagger #1, identified as 16J44, constructed in 1988, permitted in 2011, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(28) One (1) Product Transfer for Bulk Bagger #2 (17Z14), identified as 17F14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(29) One (1) Bulk Bagger #2, identified as 17Z14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(30) One (1) Product Receiver for Bulk Bagger #3, identified as 41F8, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F8, and exhausting via vent 208 to stack 355.

(31) Two (2) Product Receivers for Bulk Bagger #3, identified as 41F81 and 41F82, constructed in 1997, with emissions controlled by integral product receiver/baghouses 41F81 and 41F82, and exhausting via vent 208 to stack 355.

(32) One (1) Bulk Bagger #3, identified as 41Z6, constructed in 1988, permitted in 2011, with emissions controlled by cyclone 41F60 and baghouse 41F44, and exhausting via vent 256 to stack 361.

(33) One (1) Bulk #1 Product Screening System, identified as 20F1, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F1, and exhausting via vent 330 to stack 404.

(34) One (1) Bulk #2 Product Screening System, identified as 20F50, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F50, and exhausting via vent 331 to stack 404.

(35) One (1) Bulk Starch Rail Loadout #1 (Track #9), identified as 20F61, constructed in 1966, with emissions controlled by baghouse 20F61, and exhausting via vent 135 to stack 404.

(36) One (1) Bulk Starch Rail Loadout #2 (Track #10), identified as 20F60, constructed in 1993, with emissions controlled by baghouse 20F60, and exhausting via vent 79 to stack 404.

(37) One (1) Pneumatic Truck Loadout, identified as 20F78 and 20F79, constructed in 1997, with emissions controlled by baghouses 20F78 and 20F79, and exhausting via vent 264 to stack 404.

(38) One (1) Bulk Starch Rail Loadout #3 (J4), identified as 16F100, constructed in 1989, with emissions controlled by baghouse 16F100, and exhausting via vent 183 to stack 177.

(39) One (1) Dextrin/Roll/Spray Cooked Starch Bulk Truck Loadout, identified as 41F6, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F6, and exhausting to stack 189.

(i) Utility Area, consisting of:

(1) Three (3) natural gas-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) NG-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004 and 2014, with a heat input capacity of 231 MMBtu/hr, equipped with four (4) low-NO_x burners, using natural gas, and exhausting to stack 202.

(j) One (1) Wastewater Treatment Anaerobic Digester, identified as 34V10, constructed in 1985. Biogas emissions can be:

(1) Controlled by the use of an alkaline scrubber, identified as 34V11, for controlling H_2S emissions; and

(A) Used as fuel in fiber flash dryer furnace 21B501; and/or

(B) Used as fuel in gluten flash dryer 48D101; and/or

(C) Combusted in one (1) main flare (21Z1), exhausting to stack 271, if the biogas produced exceeds these emissions units' capacity;

or

(2) Combusted in one (1) emergency flare (34Z1), exhausting to stack 272.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.

(b) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(d) Combustion source flame safety purging on startup.

(e) Gasoline fuel transfer dispensing operations handling less than or equal to 1,300 gallons per day and filling storage tanks having a capacity equal to or less than 10,500 gallons:

One (1) storage tank, identified as Tank #3, for storage of gasoline, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons. [326 IAC 8-4-6] [326 IAC 8-4-9]

(f) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(g) The following VOC and HAP storage containers: Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons; Vessels storing lubricating oils, hydraulic oils, and machining fluids.

(h) Refractory storage not requiring air pollution control equipment.

(i) Equipment used exclusively to fill drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]

(k) Cleaners and solvents having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20˚C (68˚F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

(l) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(m) Closed loop heating and cooling systems.

(n) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables. [326 IAC 6-3-2]

(o) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(p) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is to an on-site sewage treatment facility.

(q) Any operation using aqueous solutions containing less than 1% by weight VOCs excluding HAPs.

(r) Noncontact, forced and induced, draft cooling tower systems not regulated under a NESHAP.

(s) Replacement or repair of electrostatic precipitators, bags in baghouses, and filters in

other air filtration equipment.

(t) Heat exchanger cleaning and repair.

(u) Process vessel degassing and cleaning to prepare for internal repairs.

(v) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

(w) Asbestos abatement projects regulated by 326 IAC 14-10. [326 IAC 14-10]

(x) Purging of gas lines and vessels that are related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(y) Equipment used to collect any material that might be released during a malfunction process upset, or spill cleanup, including catch tanks, temporary liquid separator tanks, and fluid handling equipment.

(z) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(aa) On-site fire and emergency response training approved by the department.

(bb) Emergency generators as follows:

(1) One (1) emergency diesel generator, installed in 1998, identified as Wastewater Treatment Generator, with a maximum capacity of 317 hp. Under 40 CFR 63, Subpart ZZZZ, this is considered an existing affected source. [40 CFR 63, Subpart ZZZZ]

(cc) Purge double block and bleed valves.

(dd) Filter or coalescer media changeout.

(ee) A laboratory as defined in 326 IAC 2-7-1(21)(D).

(ff) Research and development activities as defined in 326 IAC 2-7-1(21)(E).

(gg) Propylene oxide storage tank and associated distribution system, including

(1) One (1) Propylene Oxide (PO) Tank, identified as 42V1, constructed in 1986, with a capacity of 30,000 gallons.

(2) Distribution system that includes railcar transfer rack, all valves, pumps, and sampling connections associated with the PO distribution system.

Under 40 CFR 63, Subpart EEEE, this is considered an existing affected source. [40 CFR 63, Subpart EEEE]

(hh) Activities with potential emissions within any of the following thresholds: equal to or less than 5 pounds per hour or 25 pounds per day PM_{10}, SO_2, or NO_x; equal to or less than 3 pounds per hour or 15 pounds per day VOC; equal to or less than 25 pounds per day CO; equal to or less than 0.6 tons per year or 3.29 pounds per day Pb; or greater than 1 pound per day but less than 5 pounds per day or 1 ton per year single HAP (and not regulated by a NESHAP):

Buildings 7 and 25 --- Starch Bin Room and Belt Dryer Mill Room:
Belt Dryer Vacuum Filter Pump (S/V 178), identified as 07C3.

Building 11 --- Utilities and Chemical Unloading Area:
Sulfur Dioxide Storage Tank Three Relief Vents (S/V 170 - S/V 172), identified as 09V2.
Hot Oil Tank, identified as 11V199, with a capacity of 9,200 gallons.

Building 14 --- Steep Tank Area and Chemical Unloading Area:
Steep Evaporator Polish Heater (S/V 306), identified as 1472.
Dent 2 Starch Storage Tank (S/V 304), identified as 15V261.
Dent 3 Starch Storage Tank (S/V 302), identified as 15V244.
Dent 4 Starch Storage Tank (S/V 301), identified as 15V260.
Gluten Storage Tank (S/V 303), identified as 15V245.
Dilute Sulfuric Acid Tank (S/V 51), identified as 15V310.
Dow Quat Tank (S/V 57), identified as 14V112, constructed after 1984, with a capacity of 24,000 gallons.
Dilute Caustic Tank (S/V 58), identified as 14V106.
Dilute Caustic Tank (S/V 59), identified as 14V107.
Dilute Caustic Tank (S/V 150), identified as 09V95.
Bleach Tank (S/V 60), identified as 09V142.
Bleach Tank (S/V 61), identified as 09V143.
Acetic Anhydride Tank (S/V 56), identified as 15V228, with a capacity of 12,000 gallons.
Concentrated Sulfuric Acid Tank (S/V 52), identified as 14V309.
Phosphorus Oxychloride Tank Pressure Relief (S/V 55), identified as 15V229.
Hydrogen Peroxide Tank (S/V 54), identified as 09V232.
Steepwater Loadout (S/V 307), identified as 23L001.
Heavy Steep Water Tank (S/V 298), identified as 23V259.
Waxy Starch Storage (S/V 299), identified as 15V262.
Light Steepwater Storage Tank (S/V 300), identified as 14V21.
Dent 1 Starch Storage Tank (S/V 452), identified as 15V263, approved in 2014 for construction.
Waxy 2 Starch Storage Tank (S/V 451), identified as 15V265.
Tri-Polyphosphate Mix Tank (S/V 450), identified as 09V104.

Building 15 --- Wet Mill:
Mill House Steam Condensate Tank (S/V 5), identified as 14V165.
Steam Vapor Condensate Tank (S/V 151), identified as 14V89.
Mill House Good Steam Condensate Tank (S/V 152), identified as 14V132.
Steam Vent (S/V 153), identified as St. Vent.
Starch Reactor (S/V 155), identified as 15V277.

Building 16 --- Belt Dryers:
Belt Dryer Scrubber Pot (S/V 293), identified as 16F26.

Building 17 --- Starch Warehouse:
Belt Dryer Steam Exhaust (S/V 196), identified as 16V100.
Belt Dryer Scrubber Pot (S/V 295), identified as 17F78.

Buildings 18, 18B, and 18C --- Refinery Area:
Non-Propylene Oxide Starch Reactor (S/V 39), identified as 18V181.
N Octenyl Succinic Anhydride (NOSA) Tank, identified as 18V197, with a capacity of 13,000 gallons.
Filtration Hold and Enzyme Addition Tank, identified as 18V273, with a maximum capacity of 70,000 gallons.
Precoat Vacuum Filter (S/V 163C), identified as 18F55.
Precoat Filter Vacuum Pump (S/V 161C), identified as 18C255.

Starch Reslurry Tank, identified as 18V85.
Jet Cooker Feed Tank, identified as 18V165.
Starch Acid Mix Tank (S/V 322), identified as 18V99.
Jet Cooker Entry Chamber (S/V 320), identified as 18V67.
Enzyme Liquefaction Reactor (S/V 460), identified as 18V230
Enzyme Liquefaction Reactor (S/V 461), identified as 18V231
Maltodextrin Tank, identified as 18V167.
Maltodextrin Tank, identified as 18V168.
Maltodextrin Tank, identified as 18V169.
Maltodextrin Tank, identified as 18V176.
Maltodextrin Tank, identified as 18V177.
Maltodextrin Tank, identified as 18V184.
Pre-Evaporator Feed Tank, identified as 18V94.
Syrup Pre-Evaporator, identified as 14X20.
High DS Vacuum Filter Pump (S/V 309), identified as 18P390.
High DS Vacuum Filter Pump (S/V 309), identified as 18P391.
Precoat Vacuum Filter (S/V 163D), identified as 18F56.
Precoat Vacuum Filter (S/V 163E), identified as 18F20.
Precoat Vacuum Filter (S/V 163A), approved in 2014 for construction, identified as 18F57.
Precoat Filter Vacuum Pump (S/V 161D), identified as 18C156.
Precoat Filter Vacuum Pump (S/V 161E), identified as 18C20.
Precoat Filter Vacuum Pump (S/V 161A), approved 2014 for construction, identified as 18C57.
Booster Vacuum Pump (S/V 161F), identified as 18C16.
Condensate Receiver (S/V 162A), identified as 18V211.
Condensate Receiver (S/V 162B), identified as 18V221.
Steam Relief Vent (S/V 159), identified as St. Vent.
Steam Relief Vent (S/V 9), identified as 18X81.
Malto Evaporator (S/V 10), identified as 18X32.
Jet Converter Hotwell (S/V 165C), identified as 18V28.
Belt Dryer Vacuum Cleaning System, identified as 18F37.
Precoat Makeup Tank (S/V 6), identified as 18V78.
Precoat Feed Tank (S/V 323), identified as 18V72.
Expansion Tank for Hot Oil, identified as 18V200, with a capacity of 2,500 gallons.
Non-Propylene Oxide Starch Reactor (S/V 39), identified as 18V182.
Non-Propylene Oxide Starch Reactor (S/V 40), identified as 18V183.
Non-Propylene Oxide Starch Reactor (S/V 401), identified as 18V272.

Building 19 --- Roll Dryer System:
Roll Dryer Supply Tank (S/V 439), identified as 18V166.
Roll Dryer Vacuum Filter (S/V 440), identified as 19F201.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 441), identified as 19C241.
Roll Dryer Feed Tank (S/V 442), identified as 19V205.

Building 21 --- Feed House:
Sump Collection Tank (S/V 305), identified as 21V206.

Building 34 --- Waste Treatment Building:
Bleach Storage Tank (S/V 63), identified as 34V50.
Ammonia Storage Tank (S/V 62), identified as 34V1.
Mannic Polymer Tank (S/V 319), with a capacity of 17,000 gallons.

Building 41 --- Roll Dryers:
Roll Dryer Supply Tank (S/V 193), identified as 41V104.
Roll Dryer Supply Tank (S/V 194), identified as 41V105.

Roll Dryer Filter Feed Tank (S/V 292), identified as 41V101.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 192), identified as 41C110.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 270), identified as 41C111.

Building 45 --- Propylene Oxide Reactors:
Propylene Oxide Reactor (45V223) Pressure Relief Vent (S/V 13), identified as 45V223.
Propylene Oxide Reactor (45V223) Vent Fan (S/V 32), identified as 45C223.
Propylene Oxide Reactor (45V240) Pressure Relief Vent (S/V 15), identified as 45V240.
Propylene Oxide Reactor (45V240) Vent Fan (S/V 16), identified as 45C240.
Propylene Oxide Reactor (45V241) Pressure Relief Vent (S/V 25), identified as 45V241.
Propylene Oxide Reactor (45V241) Vent Fan (S/V 26), identified as 45C241.
Propylene Oxide Reactor (45V242) Pressure Relief Vent (S/V 27), identified as 45V242.
Propylene Oxide Reactor (45V242) Vent Fan (S/V 28), identified as 45C242.
Propylene Oxide Reactor (45V243) Pressure Relief Vent (S/V 29), identified as 45V243.
Propylene Oxide Reactor (45V243) Vent Fan (S/V 30), identified as 45C243.
Propylene Oxide Reactor (45V246) Pressure Relief Vent (S/V 35), identified as 45V246.
Propylene Oxide Reactor (45V246) Vent Fan (S/V 36), identified as 45C246.
Propylene Oxide Reactor (45V247) Pressure Relief Vent (S/V 37), identified as 45V247.
Propylene Oxide Reactor (45V247) Vent Fan (S/V 38), identified as 45C247.
Propylene Oxide Reactor (45V248) Pressure Relief Vent (S/V 217), identified as 45V248.
Propylene Oxide Reactor (45V248) Vent Fan (S/V 218), identified as 45C248.
Propylene Oxide Reactor (45V270) Pressure Relief Vent (S/V 44), identified as 45V270.
Propylene Oxide Reactor (45V270) Vent Fan (S/V 44), identified as 45C270.
Propylene Oxide Reactor (45V271) Pressure Relief Vent (S/V 46), identified as 45V271.
Propylene Oxide Reactor (45V271) Vent Fan (S/V 46), identified as 45C271.
Propylene Oxide Reactor (45V280) Pressure Relief Vent (S/V 336), identified as 45V280.
Propylene Oxide Reactor (45V280) Vent Fan (S/V 336), identified as 45C280.
Propylene Oxide Reactor (45V281) Pressure Relief Vent (S/V 337), identified as 45V281.
Propylene Oxide Reactor (45V281) Vent Fan (S/V 337), identified as 45C281.
Propylene Oxide Reactor (45V292) Pressure Relief Vent (S/V 412), identified as 45V292.
Propylene Oxide Reactor (45V292) Vent Fan (S/V 412), identified as 45C292.
Propylene Oxide Reactor (45V293) Pressure Relief Vent (S/V 413), identified as 45V293.
Propylene Oxide Reactor (45V293) Vent Fan (S/V 413), identified as 45C293.
Propylene Oxide Reactor (45V294) Pressure Relief Vent (S/V 414), identified as 45V294.
Propylene Oxide Reactor (45V294) Vent Fan (S/V 414), identified as 45C294.
Propylene Oxide Reactor (45V295) Pressure Relief Vent (S/V 415), identified as 45V295.
Propylene Oxide Reactor (45V295) Vent Fan (S/V 415), identified as 45C295.
Propylene Oxide Reactor (45V296) Pressure Relief Vent (S/V 416), identified as 45V296.
Propylene Oxide Reactor (45V296) Vent Fan (S/V 416), identified as 45C296.
Propylene Oxide Reactor (45V298) Pressure Relief Vent (S/V 417), identified as 45V298-PRV.
Propylene Oxide Reactor (45V298) Vent Fan, identified as 45C298, approved in 2014 for construction, uncontrolled and utilized after the acid-kill, and exhausting to stack 417.
Propylene Oxide Reactor (45V299) Pressure Relief Vent (S/V 418), identified as 45V299-PRV.
Propylene Oxide Reactor (45V299) Vent Fan, identified as 45C299, approved in 2014 for construction, uncontrolled and utilized after the acid-kill, and exhausting to stack 418.
PO Scrubber Sulfuric Acid Tank, identified as 45V212, with a capacity of 25,000 gallons.
Sodium Sulfate Liquid Storage Tank (S/V 65), identified as 45V252.

Building 46 --- Spray Dryer #2:
Cooker Product Tank (S/V 437), identified as 46V294.
Product Tank (S/V 438), identified as 46V296.

Wet Milling Operations
Corn Heater Tank, identified as 14V600, with emissions controlled by alkaline scrubber

15F401, and exhausting to stack 17.
Steepwater Evaporator Vacuum Pump, identified as 14P510, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.
Steepwater Evaporator, Vacuum Pump, approved in 2014 for construction, identified as 14P511, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.
Third Grind Receiver Tank, identified as 15V33, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.
Germ Dewatering Press, identified as 15J103, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.
One (1) Dent Starch Slurry Storage Tank, identified as 15V43, constructed in 1966.
120 Degree Water Tank, identified as 21V103.
Millhouse Floor Water Tank, identified as 21V1
Gluten Filter Seal Water Tank, identified as 21V205

Feed/Meal/Germ Production Operations
Fiber Flash Dryer Paddle Mixer, identified as 21U501.
RST Feed Dryer Mixer, identified as 21J47.
RST Germ Dryer Discharge Conveyor, identified as 21U403.
Hammermill Feed Drag Conveyor, identified as 21U313.
Hammermill Discharge Transfer Conveyor, identified as 21U315.
Feed Loadout Transfer Conveyor, identified as 21U201.
Product Collector Conveyor, identified as 12U10.
Truck Loadout Conveyor, identified as 12U54.

Syrup Refining Operations
Reject Flash Enzyme Chamber, identified as 18V313.

Starch Modification Operations
Flash 3 Larox Filter Feed Tank, identified as 43V73.
Dryer Starch Feed Conveyor/Flash 3 Paddle Mixer, identified as 43U74.
Roll Dryer 1 Reslurry Tank, identified as 41V103.
Roll Dryer 2 Reslurry Tank, identified as 19V200.
One (1) Starch Reactor, identified as 18V180, constructed in 1994, with emissions uncontrolled, and exhausting to stack 42.
One (1) Starch Reactor, identified as 18V179, constructed in 1994, with emissions uncontrolled, and exhausting to stack 42.
One (1) 10,000 gallon sodium bisulfite Storage Tank, Identified as 18V108, approved in 2014 for construction, with emissions uncontrolled and exhausting to stack 456.
One (1) 10,000 gallon Sodium chlorite Storage Tank, Identified as 18V109, approved in 2014 for construction, with emissions uncontrolled and exhausting to stack 457.
One (1) Roll Dryer Rotary Vacuum Filter, approved 2014 for construction, identified as 18F53, with emissions uncontrolled, and exhausting to stack 163B.
One (1) Roll Dryer Rotary Filter Vacuum Pump, approved in 2014 for construction, identified as 18C233 with emissions uncontrolled, and exhausting to stack 161B.

Starch Drying and Handling Operations
Agglomerator Feed Blender, identified as 50U106.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22); or

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]

(a) This permit, T157-27029-00003, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)] [326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance,

IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T157-27029-00003 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b) or (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] [40 CFR 64] [326 IAC 3-8]

(a) For new units:

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(11)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 Response to Excursions or Exceedances [40 CFR 64] [326 IAC 3-8] [326 IAC 2-7-5] [326 IAC 2-7-6]

(l) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

(II)

(a) CAM Response to excursions or exceedances.

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to

have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) CAM recordkeeping requirements.

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 326 IAC 2-2-8(b)(6)(A), 326 IAC 2-2-8(b)(6)(B), 326 IAC 2-3-2(l)(6)(A), and/or 326 IAC 2-3-2(l)(6)(B)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(pp)(2)(A)(iii) and/or 326 IAC 2-3-1(kk)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 326 IAC 2-2-8(b)(6)(A) and/or 326 IAC 2-3-2(l)(6)(A)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [40 CFR 64] [326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from

permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(ww) and/or 326 IAC 2-3-1(pp), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) Corn Receiving and Handling Operations, consisting of:

(1) One (1) Railcar Corn Dump Hopper, identified as 12V101, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(2) One (1) Truck Corn Dump Hopper, identified as 12V102, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(3) One (1) Corn Transfer Conveyor, identified as 8U1, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(4) One (1) Bucket Corn Elevator, identified as 12U2, constructed in 2006, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(5) Two (2) Corn Transfer Conveyors, identified as 12U4 and 12U5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(6) Five (5) Corn Storage Silos, identified as 13V1, 13V2, 13V3, 13V4 and 13V5, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(7) Three (3) Corn Transfer Conveyors, identified as 13U6, 13U7, and 13U8, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(8) One (1) Corn Cleaner Fill Conveyor, identified as 14U12, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(9) One (1) Vibrating Corn Cleaning System, identified as 14J5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(10) One (1) Corn Cleanings Pneumatic Transfer, identified as 14C300, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(11) One (1) Bucket Elevator from Corn Cleaner to Steeps, identified as 14U9, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):

12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9.

(b) Best available control technology (BACT) for PM and PM_{10} (Filterable and Condensable) shall be the use of baghouse 08F300, and:

(1) PM emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(3) PM emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(4) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(5) The opacity from the baghouse 08F300 shall not exceed 3%.

Compliance Determination Requirements

D.1.2 Particulate Control

In order to comply with Condition D.1.1, baghouse 08F300 for particulate control shall be in operation and control emissions from emission units 12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9 at all times when an emission unit that the baghouse controls is in operation.

D.1.3 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.1.4 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM and PM_{10} testing of baghouse 08F300 utilizing methods as approved by the Commissioner at least

once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.5 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the exhaust from stack 433 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.6 Baghouse Parametric Monitoring [40 CFR 64]

(a) The Permittee shall record the pressure drop across baghouse 08F300 used in conjunction with emission units 12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9 at least once per day when any of these emission units is in operation.

(b) When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.1.7 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any

response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.5, the Permittee shall maintain a daily record of visible emission notations of stack 433 for the baghouse 08F300 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.1.6, the Permittee shall maintain a daily record of the pressure drop across baghouse 08F300 controlling the stack 433 exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(b) Wet Milling Operations, consisting of:

(1) Twelve (12) Corn Steep Tanks, identified as 14V3 through 14V14, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(2) Two (2) Corn Steep Tanks, identified as 14V15 and 14V16, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(3) Three (3) Corn Steep Tanks, identified as 14V400, 14V401, and 14V402, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(4) One (1) High DS Starch Filter, identified as 18F510, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(5) Two (2) Third Stage Germ Wash Screens, identified as 15J203, constructed in 2012 and 15J204, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(6) One (1) Light Steepwater Receiver Tank, identified as 14V19, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(7) One (1) High DS Starch Tank, identified as 18V520, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(8) One (1) High DS Starch Wash Water Tank, identified as 18V522, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(9) Ten (10) Grit Starch Separator (Third Grind) Screens, identified as 15J15 through 15J19, 15J21, and 15J22, constructed in 1990, and 15J20, 15J23, and 15J38, constructed in 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(10) Two (2) Grit Starch Separator Screens, identified as 15J39 and 15J40, approved in 2014 for construction, with emissions voluntarily vented to alkaline scrubber 15F401, and exhausting to stack 17.

(11) Nine (9) Sixth Stage Fiber Wash Screens, identified as 15J86, 15J87, 15J88, 15J89, 15J220, and 15J221, constructed in 1966, and 15J241, 15J242, and 15J243, constructed in 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(12) Two (2) First Stage Germ Wash Screens, identified as 15J100 and 15J101, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(13) One (1) Second Stage Germ Wash Screen, identified as 15J99, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(14) One (1) Second Pass Germ Feed Tank, identified as 15V25, constructed in 1966, with

emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(15) One (1) Grit Starch Feed Tank, identified as 15V26, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(16) One (1) Fiber Supply Tank, identified as 21V33, constructed in 2000, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(17) One (1) Steeped Corn Separator, identified as 15J5A, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(18) One (1) First Pass Germ Feed Tank, identified as 15V23, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(19) One (1) Second Stage Germ Wash Screen, identified as 15J53, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(20) Three (3) Second Grind Dewatering Screens, identified as 15J14 and 15J3, constructed in 1966, and 15J248 constructed in 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(21) One (1) First Grind Receiver Tank, identified as 15V22, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(22) One (1) Second Grind Receiver Tank, identified as 15V24, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(23) One (1) Third Grind Discharge Tank, identified as 15V27, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(24) One (1) Clamshell Wash Water Tank, identified as 15V2, constructed in 1991, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(25) One (1) Steeped Corn Pump Tank, identified as 14V17, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(26) One (1) Germ Water Tank, identified as 15V139, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(27) One (1) Steepwater Head Tank, identified as 14V18, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(28) One (1) Steep Acid Tank, identified as 14V20, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(29) Five (5) Fiber Wash Receiver Tanks, identified as 15V110 through 15V114, constructed in 1966, providing aspiration to 1st through 5th Stage Fiber Wash Screens, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(30) One (1) Process Water Tank, identified as 15V30, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(31) One (1) Primary Wash Water Tank, identified as 15V41, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(32) One (1) Wash Water Surge Tank, identified as 15V38, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(33) One (1) Primary Feed Tank, identified as 15V34, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(34) One (1) Primary Underflow Tank, identified as 15V35, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(35) One (1) Gluten Thickener Feed Tank, identified as 15V36, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(36) One (1) Heavy Gluten Tank, identified as 15V37, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(37) One (1) Clarifier Feed Tank, identified as 15V40, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(38) One (1) MST Feed Tank, identified as 15V31, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(39) One (1) Gluten Vacuum Filter, identified as 21F5, approved in 2014 for construction, with emissions voluntarily vented to alkaline scrubber 15F401, and exhausting to stack 17.

(40) One (1) Gluten Vacuum Filter Pump, identified as 21C105, approved in 2014 for construction, with emissions voluntarily vented to alkaline scrubber 15F401, and exhausting to stack 17.

(41) One (1) Gluten Vacuum Filter, identified as 21F6, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(42) One (1) Gluten Vacuum Filter Pump, identified as 21C6, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(43) One (1) Gluten Vacuum Filter, identified as 21F7, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(44) One (1) Gluten Vacuum Filter Pump, identified as 21C7, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(45) One (1) Gluten Vacuum Filter, identified as 21F8, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(46) One (1) Gluten Vacuum Filter Pump, identified as 21C8, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(47) One (1) Gluten Vacuum Filter, identified as 21F9, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(48) One (1) Gluten Vacuum Filter Pump, identified as 21C9, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(49) One (1) Gluten Vacuum Filter, identified as 21F10, constructed in 1966, with

emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(50) One (1) Gluten Vacuum Filter Pump, identified as 21C10, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(51) One (1) Fiber Dewatering Press Feed Conveyor, identified as 21U1, constructed in 1990, providing aspiration to the Fiber Press Dewatering Screens, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(52) One (1) Fiber Dewatering Press Discharge Conveyor, identified as 21U302, constructed in 2007, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(53) One (1) Gluten Filter Bowl Drain Tank, identified as 21V159, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(54) One (1) Gluten Filter Wash Bar Trough Drain Tank, identified as 21V59, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(55) One (1) Fiber Filtrate Tank, identified as 21V58, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(56) One (1) Heavy Steepwater Tank, identified as 21V56, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(57) One (1) Monitor Tank, identified as 15V210, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(58) One (1) Germ Press Discharge Conveyor, identified as 21U45, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for sulfur dioxide (SO_2) and VOC using the BACT:

(1) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J203, 15J204, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J20, 15J21, 15J22, 15J23, 15J38, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J241, 15J242, 15J243, 15J100, 15J99, 15V25, 15V26, 21V33, 15J5A, 15V23, 15J53, 15J14, 15J3, 15J248, 15V22, 15V24, 15V27, 15V2, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 14V18, 14V20, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21U1, 21U302, 21V159, 21V59, 21V58, 21V56, 15V210, and 21U45; and

(2) Feed/Meal/Germ Production Operations, including 21D3.

(b) For these units, the BACT for SO_2 is the use of alkaline scrubber 15F401, and:

(1) When the inlet SO_2 concentration to the scrubber is greater than 150 ppmvw, the scrubber shall have a minimum SO_2 control efficiency of 90%, and the scrubber outlet SO_2 emission rate shall not exceed 8.17 lbs/hr SO_2; and

(2) When the inlet SO_2 concentration to the scrubber is 150 ppmvw or less, the scrubber shall have an outlet SO_2 concentration of less than 15 ppmvw, and the scrubber outlet SO_2 emission rate shall not exceed 8.17 lbs/hr.

(c) For these units, the BACT for VOC is the use of an absorption system using wet scrubber 15F401, and:

(1) The scrubber shall have a minimum VOC control efficiency of 25%; and

(2) The scrubber outlet VOC emission rate shall not exceed 27 lbs/hr.

D.2.2 Prevention of Significant Deterioration (PSD) Minor Limit SO_2, VOC [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014/2015 modification, the Permittee shall comply with the following:

(a) The uncontrolled SO_2 emissions rate from the Grit Starch Separator Screens, identified as 15J39 and 15J40, shall not exceed 0.11 pounds per hour.

(b) The uncontrolled VOC emissions rate from the Grit Starch Separator Screens, identified as 15J39 and 15J40, shall not exceed 0.09 pounds per hour.

(c) The combined uncontrolled SO_2 emissions rate from the Gluten Vacuum Filter, identified as 21F5, and the Gluten Filter Vacuum Pump, identified as 21C105, shall not exceed 0.25 pounds per hour.

(d) The combined uncontrolled VOC emissions rate from the Gluten Vacuum Filter, identified as 21F5, and the Gluten Filter Vacuum Pump, identified as 21C105, shall not exceed 1.60 pounds per hour.

Compliance with these limits, in combination with the limits in Conditions D.4.1, D.5.2, D.7.3, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014/2015 modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NO_X, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014/2015 modification.

Compliance Determination Requirements

D.2.3 Sulfur Dioxide (SO_2) and Volatile Organic Compounds (VOC) Control

In order to comply with Condition D.2.1 and D.2.2, scrubber 15F401 used for SO_2 and VOC control shall be in operation and control SO_2 and VOC emissions at all times when any of the following emission units that are aspirated to the scrubber are in operation:

(a) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J203, 15J204, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J20, 15J21, 15J22, 15J23, 15J38, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J241, 15J242, 15J243, 15J100, 15J99, 15V25, 15V26, 21V33, 15J5A, 15V23, 15J53, 15J14, 15J3, 15J248, 15V22, 15V24, 15V27, 15V2, 14V17, 15V139, 1st Stage through

5th Stage Fiber Wash Screens, 14V18, 14V20, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21U1, 21U302, 21V159, 21V59, 21V58, 21V56, 15V210, and 21U45;

(b) Feed/Meal/Germ Production Operations, including 21D3;

(c) Syrup Refining Operations, including 18V413, 18V513; and

(d) Insignificant Activities, including 14V600, 14P510, 14P511, 15V33, 21U403, and 14X20.

D.2.4 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.2.1(b), D.2.1(c), and D.2.2, the Permittee shall perform SO_2 and VOC testing of scrubber 15F401, utilizing methods as approved by the Commissioner, at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) In order to demonstrate compliance with Conditions D.2.2 and D.4.1(a) and (b), the Permittee shall perform SO_2 and VOC testing of scrubber 15F401 no later than 180 days after the startup of the Gluten Vacuum Filter, identified as 21F5, the Gluten Filter Vacuum Pump, identified as 21C105, and the Grit Separator Screens, identified as 15J39 and 15J40, and the Jet Conversion Flash Chamber (ID 18V513), utilizing methods as approved by the Commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.5 Scrubber Parametric Monitoring [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor and record the scrubber recirculation rate from scrubber 15F401 at least once per day when any of the emission units being aspirated to scrubber 15F401 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 400 gallons per minute. If the flow rate falls below 400 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.2.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) Pursuant to 40 CFR 64 (CAM), within ninety (90) days from the issuance date of Significant Permit Modification 157-30882-00003, the Permittee shall monitor and record the scrubber make-up water flow from scrubber 15F401 continuously when any of the emission units being aspirated to scrubber 15F401 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of five (5) gallons per minute. If the flow rate falls below five (5) gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.2.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the pH across scrubber 15F401 at least once per day when any of the emission units being aspirated to scrubber 15F401 are in operation.

(1) When, for any one reading, the pH across the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 7 and 9 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The instruments used for determining the pH and flow rates shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

(e) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.6 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 15F401 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.7 Record Keeping Requirements

(a) To document compliance with Condition D.2.5, the Permittee shall maintain a daily record of:

(1) The scrubber recirculation rate across scrubber 15F401 controlling the Wet Milling Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(2) The scrubber make-up water flow, as read by the continuous monitor, from scrubber 15F401 controlling the Wet Milling Operation exhaust. The Permittee shall include in its daily record when a make-up water flow reading is not taken and the reason for the lack of a make-up water flow reading (e.g. the process did not operate that day).

(3) The pH across scrubber 15F401 controlling the Wet Milling Operation exhaust. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of a pH reading (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Feed/Meal/Germ Production Operations, consisting of:

(1) One (1) Fiber Flash Dryer, identified as 21D501, constructed in 2007. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 21F501-21F502, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, constructed in 2007, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(3) Two (2) Natural Gas Fired Thermal Oxidation Units, identified as 48F201 and 48F202, constructed in 2006, with a heat input capacity of 5 million Btu per hour, each.

(4) One (1) Corn Cleanings Receiver, identified as 21F304, loaded pneumatically via Corn Cleanings Pneumatic Transfer, identified as 08C304, constructed in 2007, with emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202; before exhausting to stack 17.

(5) One (1) RST Feed Dryer, identified as 21D301, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F301, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(6) One (1) natural gas or biogas fired Gluten Flash Dryer, identified as 48D101, constructed in 2007, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 48F101-48F102, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(7) One (1) 48D101 Dryer Air Conveying Line, identified as AC8, constructed in 1966, with emissions controlled by integral product collector/baghouse 21F36, and exhausting to stack 145.

(8) One (1) RST Germ Dryer, identified as 21D401, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F401, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(9) Two (2) Water Tube Germ Cooler Rotary Airlock Valves, identified as 21D3 (formerly Germ Dryer 21D3), loaded pneumatically via Germ Pneumatic Transfer 21C404 and Germ Cooler Cyclone 21F404, constructed in 2007, with pneumatic transfer blowback air controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section

D.2 for the control device monitoring requirements).

(10) One (1) Feed Cooler, identified as 21D8 (formerly Meal Dryer 21D8), constructed in 1966 and modified in 2007. PM and PM_{10} emissions are controlled by product collector/cyclone 21F310, then PM and PM_{10} emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501, and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(11) One (1) Feed Mill, identified as 21G351, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(12) One (1) Feed Mill, identified as 21G352, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(13) One (1) Feed Milling Loadout Conveyor, identified as 21U314, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(14) One (1) Feed Loadout Hopper, identified as 21V125, permitted in 2005, with emissions aspirated to the inlet of Feed Cooler 21D8 to be used as cooling air.

(15) One (1) Feed Storage Bin, identified as 8V121, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F1, and exhausting to stack 110.

(16) One (1) Feed Storage Bin, identified as 8V122, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F2, and exhausting to stack 111.

(17) One (1) Feed Storage Bin, identified as 8V123, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F3, and exhausting to stack 112.

(18) One (1) Feed Storage Bin, identified as 8V124, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F4, and exhausting to stack 113.

(19) One (1) Meal Storage Bin, identified as 8V62, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F62, and exhausting to stack 114.

(20) One (1) Meal Storage Bin, identified as 8V63, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F63, and exhausting to stack 115.

(21) One (1) Germ Storage Bin, identified as 8V53, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F53, and exhausting to stack 116.

(22) One (1) Germ Storage Bin, identified as 8V54, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F54, and exhausting to stack 117.

(23) Two (2) Co-Product Loadout Conveyors, identified as 8U39 and 8U41, constructed in 1966, with emissions aspirated to Meal Storage Bin 8V62, and controlled by bin vent 8F62, and exhausting to stack 114.

(24) Two (2) Air Conveying Lines to Loadout, identified as AC23 and AC24, constructed in

1966, with emissions controlled by integral product receiver/baghouse 12F39, and exhausting to stack 125.

(25) One (1) Rail Loadout Conveyor, identified as 12U11, constructed in 1991, with emissions controlled by baghouse 12F40, and exhausting to stack 3.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM, PM_{10}, SO_2, VOC, and NO_x using the BACT:

(1) RST Feed Dryer (21D301) – BACT for PM, PM_{10}, SO_2, and VOC;

(2) Rotary Steam Tube Germ Dryer (21D401) – BACT for PM, PM_{10}, SO_2, and VOC;

(3) Gluten Flash Dryer (48D101) – BACT for PM, PM_{10}, SO_2, VOC, and NO_x;

(4) Fiber Flash Dryer (21D501) – BACT for PM, PM_{10}, SO_2, and VOC;

(5) Fiber Flash Dryer Furnace (21B501) – BACT for PM, PM_{10}, VOC, and NO_x;

(6) Feed Cooler (21D8) – BACT for PM and PM_{10};

(7) Corn Cleanings Receiver (21F304) – BACT for PM and PM_{10};

(8) Feed Loadout Hopper (21V125) – BACT for PM and PM_{10}; and

(9) Regenerative Thermal Oxidizers (48F201 and 48F202) – BACT for PM, PM_{10}, VOC, and NO_x.

(b) The following combined emission limits are established as BACT for the above dryers:

For these units, the BACT for PM and PM_{10} is the use of scrubbers 21F13 and 21F311 and thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for PM and PM_{10}:

(1) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(3) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(5) Exhaust opacity of the combined gas flow from the thermal oxidizers and the fiber dryer furnace shall not exceed 8%.

(c) For these units, except the Fiber Flash Dryer Furnace 21B501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125, the BACT for SO_2 is the use of pH adjusted scrubber 21F13. The following emission limits are the BACT requirements for SO_2:

(1) When the inlet SO_2 concentration to the scrubber is more than 100 ppmvw, the scrubber shall have a minimum SO_2 control efficiency of 90%, and the scrubber outlet SO_2 emission rate shall not exceed 4.4 lbs/hr.

(2) When the inlet SO_2 concentration to the scrubber is 100 ppmvw or less, the scrubber shall have an outlet SO_2 concentration of 10 ppmvw or less, and the scrubber outlet SO_2 emission rate shall not exceed 4.4 lbs/hr.

(d) For these units, except the Fiber Flash Dryer Furnace 21B501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125, the BACT for VOC is the use of scrubber 21F13 followed by thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for VOC:

(1) When the inlet VOC to the scrubber is more than 100 lbs/hr, the scrubber and thermal oxidizers shall have a minimum overall VOC control efficiency of 95%, and the outlet thermal oxidizer VOC emission rate shall not exceed 3.16 lbs/hr.

(2) When the inlet VOC rate to the scrubber is 100 lbs/hr or less, the thermal oxidizers shall have an outlet VOC concentration of less than 10 ppmvw and the outlet VOC emissions rate shall not exceed 3.16 lbs/hr.

(e) For Fiber Flash Dryer Furnace 21B501, the BACT for VOC is good combustion practices.

(f) For these units, including the Fiber Flash Dryer Furnace 21B501, Gluten Flash Dryer 48D101, and the regenerative thermal oxidizers 48F201 and 48F202, except the RST Feed Dryer 21D301, Rotary Steam Tube Germ Dryer 21D401, Fiber Flash Dryer 21D501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304 and Feed Loadout Hopper 21V125, the BACT for NO_x is the use of low-NO_x burners rated at 0.06 lb/MMBtu or less, and the total NO_x emissions from these burners exhausting to stack S/V 17 shall not exceed 6 lbs/hr.

(g) The following emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(1) Feed Storage Bins 8V121, 8V123, 8V124;

(2) Meal Storage Bin 8V63;

(3) Germ Storage Bin 8V53; and

(4) Germ Storage Bin 8V54.

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses and shall meet the following emissions limitations:

(1) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouse	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
8V121	8F1	0.08	0.08
8V123	8F3	0.08	0.08
8V124	8F4	0.08	0.08
8V63	8F63	0.08	0.08
8V53	8F53	0.08	0.08
8V54	8F54	0.08	0.08

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(4) Opacity from the baghouses shall not exceed 3%.

(h) The following emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(1) Feed Mill 21G351,

(2) Feed Mill 21G352, and

(3) Feed Milling Loadout Conveyor 21U314.

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of a wet scrubber, and:

(1) PM emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(2) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(3) PM emissions from scrubber 21F312 shall not exceed 0.204 lb/hr.

(4) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.204 lb/hr.

(5) Opacity from the scrubber shall not exceed 8%.

D.3.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from fiber flash dryer furnace shall be limited to 0.20 lb/MMBtu. The above particulate emissions rate was determined from the following formula:

$$P_t = 1.09 / Q^{0.26}$$

Where:

P_t = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower

capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used (Q = 666 MMBtu/hr).

D.3.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities AC8, 8V122, 8V62, 8U39, 8U41, AC23, AC24, and 12U11 shall be limited as follows:

(a) The particulate emission rate from baghouse 21F36 shall not exceed 0.86 lb/hr.

(b) The particulate emission rates from baghouses 8F2 and 8F62 shall not exceed 0.08 lb/hr, each.

(c) The particulate emission rate from baghouse 12F39 shall not exceed 0.21 lb/hr.

(d) The particulate emission rate from baghouse 12F40 shall not exceed 0.51 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.3.4 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in to PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003:

(a) The following emission units shall be controlled for VOC using the BACT:

(1) RST Feed Dryer (21D301);

(2) Rotary Steam Tube Germ Dryer (21D401);

(3) Gluten Flash Dryer (48D101);

(4) Fiber Flash Dryer (21D501); and

(5) Regenerative Thermal Oxidizers (48F201 and 48F202).

(b) For these units, the BACT for VOC is the use of scrubber 21F13 followed by thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for VOC:

(1) When the inlet VOC to the scrubber is more than 100 lbs/hr, the scrubber and thermal oxidizers shall have a minimum overall VOC control efficiency of 95% and the outlet thermal oxidizer VOC emission rate shall not exceed 3.16 lbs/hr.

(2) When the inlet VOC rate to the scrubber is 100 lbs/hr or less, the thermal oxidizers shall have an outlet VOC concentration of less than 10 ppmvw and the outlet VOC emission rate shall not exceed 3.16 lbs/hr.

Compliance with the above PSD BACT limits shall limit the potential emissions of VOC from emission unit 21D501 to less than 25 tons per year. Therefore, compliance with these 326 IAC 2-2-3 limits shall satisfy compliance with 326 IAC 8-1-6.

Compliance Determination Requirements

D.3.5 Particulate, Volatile Organic Compounds (VOC), and Sulfur Dioxide (SO_2) Control

In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), scrubber 21F13 and thermal oxidizers 48F201and 48F202 shall be in operation and control particulate, VOC, and SO_2 emissions from emission units 21D301, 21D401, 48D101, and 21D501 and insignificant activities 21U501 and 21J47 at all times when the material feed system to any emission unit that it controls is in operation.

D.3.6 Particulate Control

(a) In order to comply with Condition D.3.1(b), scrubber 21F311 shall be in operation and control particulate emissions from emission units 21F304, 21D8, and 21V125 and insignificant activities 21U315 and 21U201 and exhaust as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or Thermal Oxidation Units 48F201 and 48F202 at all times when the material feed system to any emission unit that it controls is in operation.

(b) In order to comply with Conditions D.3.1(g) and D.3.3, bin vents 8F1, 8F2, 8F3, 8F4, 8F62, 8F63, 8F53, and 8F54 for particulate control shall be in operation and control particulate emissions from emission units 8V121, 8V122, 8V123, 8V124, 8V62, 8U39, 8U41, 8V63, 8V53, and 8V54 at all times when any emission unit that it controls is in operation.

(c) In order to comply with Condition D.3.1(h), scrubber 21F312 for particulate control shall be in operation and control particulate emissions from emission units 21G351, 21G352, and 21U314 and insignificant activity 21U313 at all times when any emission unit that it controls is in operation.

(d) In order to comply with Condition D.3.3, baghouses 21F36, 12F39, and 12F40 for particulate control shall be in operation and control particulate emissions from emission units AC8, AC23, AC24, and 12U11 at all times when any emission unit that it controls is in operation.

(e) In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), integral product collectors/cyclones 21F501 and 21F502 shall be in operation and control particulate emissions from emission unit 21D501 at all times when the material feed system to emission unit 21D501 is in operation.

(f) In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), integral product collectors/cyclones 48F101 and 48F102 shall be in operation and control particulate emissions from emission unit 48D101 at all times when the material feed system to emission unit 48D101 is in operation.

D.3.7 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency

provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows .

D.3.8 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), the Permittee shall perform PM, PM_{10}, opacity, VOC, and SO_2 testing of scrubber 21F13 and thermal oxidizers 48F201 and 48F202 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

(b) In order to demonstrate compliance with Condition D.3.1(f), the Permittee shall perform NO_x testing of emission units 48D101, 48F201, 48F202, and 21B501 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C-Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.9 Visible Emissions Notations

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the exhaust from stack 17 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the exhausts from stacks 3, 110, 111, 112, 113, 114, 115, 116, 117, 125, 145, and 444 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.10 Scrubber Parametric Monitoring

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor and record the pH across scrubber 21F13 at least once per day when any of the emission units 21D501, 21D301, 48D101, and 21D401 are in operation.

(1) When, for any one reading, the pH across the scrubber is outside ~~of~~ the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 5.5 and 7.5 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor and record the recirculation rate from scrubber 21F13 at least once per day during normal operations the emission units 21D501, 21D301, 48D101, and 21D401 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 400 gallons per minute. If the flow rate falls below 400 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the recirculation rate from scrubber 21F311 at least once per day when any of the emission units 21F304, 21D8, and 21V125 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum flow rate as specified by the manufacturer. If the 1-hr average flow rate falls below the minimum flow rate as specified by the manufacturer, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow

rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The Permittee shall monitor and record the scrubber recirculation rate from scrubber 21F312 at least once per day when any of the emission units 21G351, 21G352, and 21U314 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum flow rate as specified by the manufacturer. If the 1-hr average flow rate falls below the minimum flow rate as specified by the manufacturer, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1(h).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(e) The instruments used for determining the pH and flow rate shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.3.11 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubbers 21F13, 21F311, and/or 21F312 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.12 Thermal Oxidizer Temperature

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizers for measuring operating temperature. For purposes of this condition, continuous shall mean temperature measurement no less than once per minute. The output of this system shall be recorded as 3-hour average.

(b) The Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1400°F. If the 3-hour average temperature falls below 1,400°F, the Permittee shall take a reasonable response.

(c) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1(d).

(d) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the latest compliant stack test. If the 3-hour average temperature falls below the level observed during the most recent compliant stack test, the Permittee shall take a reasonable response.

(e) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A 3-hr average that is below the established temperature is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.3.13 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.14 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.9, the Permittee shall maintain a daily record of visible emission notations of stacks 3, 17, 110, 111, 112, 113, 114, 115, 116, 117, 125, 145, and 444 controlling the Feed/Meal/Germ Production exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.3.10(a), the Permittee shall maintain a daily record of the pH and scrubber recirculation rate from scrubber 21F13 controlling the Feed/Meal/Germ Production exhaust. The Permittee shall include in its daily record when a pH or scrubber recirculation rate reading is not taken and the reason for the lack of a pH or scrubber recirculation rate reading (e.g. the process did not operate that day).

(c) To document the compliance status with Conditions D.3.10(b) and D.3.10(c), the Permittee shall maintain a daily record of the scrubber recirculation rates from scrubbers 21F311 and 21F312 controlling the Feed/Meal/Germ Production exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.3.12, the Permittee shall maintain records of the operating temperatures of thermal oxidizers 48F201 and 48F202.

(e) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(d) Syrup Refining Operations, consisting of:

(1) One (1) HCl Storage Tank (Concentrated), identified as 9V101, constructed in 1995, with emissions controlled by scrubber 9F102, and exhausting to stack 156.

(2) One (1) Acid Reject Flash Chamber, identified as 18V312, constructed in 1966, with emissions uncontrolled, and exhausting to stack 320.

(3) One (1) Jet Conversion Flash Chamber, identified as 18V413, constructed in 1966 and approved in 2011 for the production of OS starches, with SO_2 and VOC emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(4) One (1) Jet Conversion Flash Chamber, identified as 18V513, approved in 2014 for construction, for the production of Maltodextrin, with SO_2 and VOC emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(5) One (1) Soda Ash Storage Tank, identified as 9V144, loaded pneumatically via Soda Ash Unloading System, identified as 9C40, constructed in 1966, with emissions controlled by eductor/scrubber 9E1, and exhausting to stack 149.

(6) One (1) Filteraid Storage Silo, identified as 9V31, loaded pneumatically via Filteraid Unloading System, identified as 9C31, constructed in 1966, with emissions controlled by bin vent 9F31, and exhausting to stack 123.

(7) One (1) Filteraid Conveying System to Precoat Makeup Tank, identified 18C18, constructed in 1966, with emissions controlled by integral product receiver/baghouse 18F118, and exhausting to stack 129.

(8) One (1) Powdered Carbon Storage Silo, identified as 9V30, loaded pneumatically via Powdered Carbon Unloading System, identified as 9C30, constructed in 1966, with emissions controlled by bin vent filter 09F30, and exhausting to stack 124.

(9) One (1) Powdered Carbon Transfer System, identified as 18C101, approved in 2014 for construction, with emissions controlled by Powdered Carbon Transfer Receiver/Baghouse, identified as 18F101 and exhausting through stack 462. The Powdered Carbon Transfer Receiver/Baghouse is installed to pneumatically transfer carbon from the Powdered Carbon Storage Silo, identified as 9V30, to the precoat vacuum filters.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Prevention of Significant Deterioration (PSD) Minor Limit SO_2, VOC, PM, PM_{10}, $PM_{2.5}$ [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014/2015 modification, the Permittee shall comply with the following:

(a) The SO_2 emissions from the Jet Conversion Flash Chamber, identified as 18V513, shall not exceed 1.65 pounds per hour.

(b) The VOC emissions from the Jet Conversion Flash Chamber, identified as 18V513, shall not exceed 0.75 pounds per hour.

(c) The PM emissions from the Powdered Carbon Transfer system shall not exceed 0.004 pounds per hour.

(d) The total PM_{10} emissions from the Powdered Carbon Transfer system shall not exceed 0.004 pounds per hour.

(e) The total $PM_{2.5}$ emissions from the Powdered Carbon Transfer system shall not exceed 0.002 pounds per hour.

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.5.2, D.7.3, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014/2015 modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NOx, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014/2015 modification.

D.4.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities 9V31, 9V30, 18C18, 9V144, and 18F101, shall be limited as follows:

(a) The particulate emission rate from bin vent 9F31 shall not exceed 0.03 lb/hr.

(b) The particulate emission rate from bin vent filter 09F30 shall not exceed 0.03 lb/hr.

(c) The particulate emission rate from baghouse 18F118 shall not exceed 0.03 lb/hr.

(d) The particulate emission rate from eductor/scrubber 9E1 shall not exceed 0.27 lb/hr.

(e) The particulate emission rate from receiver/baghouse 18F101 shall not exceed 0.004 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.4.3 Particulate, SO_2 and VOC Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.4.2(a), bin vent 9F31 shall be in operation and control particulate emissions from emission unit 9V31 at all times emission unit 9V31 is in operation.

(b) In order to comply with Condition D.4.2(b), baghouse 9F30 shall be in operation and control particulate emissions from emission unit 9V30 at all times emission unit 9V30 is in operation.

(c) In order to comply with Condition D.4.2(c), baghouse 18F118 shall be in operation and control particulate emissions from emission unit 18C18 at all times emission unit 18C18

is in operation.

(d) In order to comply with Condition D.4.2(d), eductor/scrubber 9E1 shall be in operation and control particulate emissions from emission unit 9V144 at all times emission unit 9V144 is being loaded.

(e) In order to comply with Condition D.4.1(a) and (b), scrubber 15F401 (Section D.2) shall be in operation and control VOC and SO_2 emissions from emission unit 18V513 at all times emission unit 18V513 is in operation.

(f) In order to comply with Condition D.4.1(c), (d), and (e), receiver/baghouse 18F101 shall be in operation and control particulate emissions from emission unit 18C101 at all times emission unit 18C101 is in operation.

D.4.4 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.4.5 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance Condition D.4.1, not later than 180 days after the startup of the Jet Conversion Flash Chamber, identified as 18V513, the Gluten Vacuum Filter (ID 21F5), the Gluten Filter Vacuum Pump (ID 21C105), and the Grit Separator Screens (IDs 15J39 and 15J40), the Permittee shall perform SO_2 and VOC testing of scrubber 15F401 (Section D.2) utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.6 Visible Emissions Notations

(a) Visible emission notations of the stacks' 123, 124, and 149 exhausts shall be performed once per day during normal daylight operations when rail or truck unloading operations occur. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stacks 129 and 462 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether

emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.4.7 Eductor/Scrubber Parametric Monitoring

The Permittee shall make a visible observation for the presence of scrubber recirculation flow each time that soda ash is unloaded through eductor/scrubber 9E1 controlling emissions from facility 9C40. If an inadequate scrubber recirculation flow is observed, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is outside the normal range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.4.8 Eductor/Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 9E1 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.4.9 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.6, the Permittee shall maintain a daily record of visible emission notations of stacks 123, 124, 129, 149, and 462 controlling the Syrup Refining Operation exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.4.7, the Permittee shall maintain observations of scrubber recirculation flow each time soda ash is unloaded from the scrubbers controlling emissions from facility 9C40.

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(e) Starch Modification Operations, consisting of:

(1) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V115, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 11.

(2) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V116, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 12.

(3) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V222, constructed in 1973 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 31.

(4) One (1) PO Reactor, identified as 45V223, constructed in 1973, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(5) One (1) PO Reactor, identified as 45V240, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(6) One (1) PO Reactor, identified as 45V241, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(7) One (1) PO Reactor, identified as 45V242, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(8) One (1) PO Reactor, identified as 45V243, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(9) One (1) PO Reactor,l identified as 45V246, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(10) One (1) PO Reactor, identified as 45V247, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(11) One (1) PO Reactor, identified as 45V248, constructed in 1991, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(12) One (1) PO Reactor, identified as 45V270, constructed in 1995, with emissions controlled by scrubber 45F212, exhausting to stack 50.

(13) One (1) PO Reactor, identified as 45V271, constructed in 1995, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(14) One (1) PO Reactor, identified as 45V280, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(15) One (1) PO Reactor, identified as 45V281, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(16) Five (5) Propylated Starch Reactors, identified as 45V292, 45V293, 45V294, 45V295,

and 45V296, constructed in 2007, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(17) One (1) Propylated Starch Reactor, identified as 45V298, approved in 2014 for construction, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(18) One (1) Propylated Starch Reactor, identified as 45V299, approved in 2014 for construction, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(19) One (1) Oxidized Starch Reactor, identified as 18V173, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(20) One (1) Oxidized Starch Reactor, identified as 18V178, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(21) One (1) Oxidized Starch Reactor, identified as 18V274, approved in 2014 for construction, with emissions uncontrolled, and exhausting to stack 455.

(22) One (1) Oxidized Starch Reactor, identified as 18V174, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(23) One (1) Oxidized Starch Reactor, identified as 18V175, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(24) One (1) Tri-Polyphosphate Storage Bin, identified as 9V103, constructed in 1988, with emissions controlled by bin vent 9F103, and exhausting to stack 68.

(25) One (1) Sodium Sulfate Storage Bin, identified as 45V250, loaded pneumatically via Sodium Sulfate Unloading System, identified as 09C200 and 09F200, constructed in 1985, with emissions controlled by two bin vents, 45F25 and 45F25A, and exhausting to stack 64.

(26) One (1) Flash 1 Filtrate Reineveldt Centrifuge, identified as 40Y1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(27) One (1) Flash 1 Slurry Hold Tank, identified as 40V1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(28) One (1) Flash 1 Starch Hold Tank, identified as 40V50, constructed in 1996, with emissions uncontrolled, and exhausting to stack 289.

(29) One (1) Dryer Starch Feed Conveyor/Flash 1 Paddle Mixer, identified as 40U2, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(30) Two (2) Flash 2 Slurry Hold Tanks, identified as 40V20 and 40V21, constructed in 1990, with emissions uncontrolled, and exhausting to stack 80.

(31) Three (3) Flash 2 Larox Filters, identified as 40F51, 40F52, and 40F53, constructed in 1995, with emissions uncontrolled, and exhausting to stack 249.

(32) One (1) Flash 2 Larox Filter, identified as 40F54, constructed in 2002, with emissions uncontrolled, and exhausting to stack 249.

(33) One (1) Flash 2 Air Release Tank, identified as 40V15, constructed in 1995, with emissions uncontrolled, and exhausting to stack 250.

(34) One (1) Flash 2 Air Release Tank, identified as 40V16, constructed in 2002, with emissions uncontrolled, exhausting to stack 251.

(35) One (1) Dryer Starch Feed Conveyor/Flash 2 Paddle Mixer, identified as 40U23, constructed in 1995, with emissions uncontrolled, exhausting to stack 249.

(36) Two (2) Flash 3 Slurry Hold Tanks, identified as 43V71 and 43V72, constructed in 1995, with emissions uncontrolled, and exhausting to stack 273.

(37) Three (3) Flash 3 Larox Filters, identified as 43F71, 43F72, and 43F73, constructed in 1995, with emissions uncontrolled, and exhausting to stack 260.

(38) One (1) Flash 3 Larox Air Release Tank, identified as 43V85, constructed in 1995, with emissions uncontrolled, and exhausting to stack 261.

(39) One (1) Flash 3 Larox Air Release Tank, identified as 43V86, constructed in 1995, with emissions uncontrolled, and exhausting to stack 318.

(40) One (1) Flash 4 Slurry Hold Tank, identified as 54V401, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 419.

(41) One (1) Flash 4 Larox Filter Feed Tank, identified as 54V403, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting inside via stack 420.

(42) Two (2) Flash 4 Larox Filters and one (1) Air Release Tank, identified as 54F421/54F422/54V421, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 421.

(43) One (1) Flash 4 Larox Filter and Air Release Tank, identified as 54F4MM/54V4MM, approved in 2014 for construction with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 423.

(44) Two (2) Spray Dryer 1 Feed Tanks, identified as 30V1 and 30V2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 195.

(45) Three (3) Spray Dryer 1 Process Tanks, identified as 40V11, 40V12, and 40V14, constructed in 1988, with emissions uncontrolled, and exhausting to stack 222.

(46) One (1) Spray Dryer 2 Feed Tank, identified as 46V297, constructed in 2006, with emissions uncontrolled, and exhausting to stack 434.

(47) One (1) Spray Dryer 2 Sweco Tank, identified as 46V201, constructed in 2006, with

emissions uncontrolled, and exhausting to stack 436.

(48) One (1) Spray Dryer 2 Waste Surge Tank, identified as 46V213, constructed in 2006, with emissions uncontrolled, and exhausting to stack 424.

(49) One (1) Spray Dryer 2 Under Flow Tank, identified as 46V204, constructed in 2006, with emissions uncontrolled, and exhausting to stack 435.

(50) Four (4) Belt Dryer Feed Tanks, identified as 45V117 through 45V120, constructed in 1966, with emissions uncontrolled, and exhausting to stack 180.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and:

(1) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(2) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

D.5.2 Prevention of Significant Deterioration (PSD) Minor Limit SO_2, VOC [326 IAC 2-2]

(a) Pursuant to 157-30564-00003, and in order to render the requirements of 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(1) The amount of acid-thinned starch produced without peroxide from reactors 45V115, 45V116, and 45V222 shall be limited to fifty million (50,000,000) pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) The sulfur dioxide (SO_2) emission rate from reactors 45V115, 45V116, and 45V222 shall not exceed 43 pounds SO_2 per 100,000 pounds of acid-thinned starch, combined.

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 45V115, 45V116, and 45V222.

(b) In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014/2015 modification, the Permittee shall comply with the following:

(1) Two (2) Propylated Starch Reactors, identified as 45V298 and 45V299, controlled by scrubber 45F212

(A) The combined throughput to the two Propylated Starch Reactors shall be limited to a total of 60 million pounds of propylated starch per twelve (12) consecutive month period with compliance determined at the end of each month.

(B) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors.

(C) The amount of propylene oxide used in propylated starch reactions that do not undergo the 'acid kill step' shall be limited to 4.0 million pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) The VOC emissions from Oxidized Starch Reactor, identified as 18V274

(A) The amount of oxidized starch produced from reactor 18V274 shall be limited to forty-eight point seven million (48,700,000) pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(B) The VOC emission rate from reactor 18V274 shall not exceed 42.7 pounds VOC per 100,000 pounds of oxidized starch.

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.4.1, D.5.2, D.7.3, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014/2015 modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NO_X, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014/2015 modification.

D.5.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities 45V250 and 9V103 shall be limited as follows:

(a) The particulate emission rates from bin vents 45F25 and 45F25A shall not exceed 0.13 lb/hr, combined.

(b) The particulate emission rate from bin vent 9F103 shall not exceed 0.04 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.5.4 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in to PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003, the following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and

(a) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(b) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

D.5.5 Avoidance Limits for HAPs [326 IAC 2-4.1]

In order to render the requirements of 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following BACT requirements, pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003:

The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and:

(a) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(b) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

Compliance with these limits will render the requirements of 326 IAC 2-4.1 not applicable to emission units 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

Compliance Determination Requirements

D.5.6 Volatile Organic Compounds (VOC) and Hazardous Air Pollutant (HAP) Control

In order to comply with Conditions D.5.1, D.5.2, D.5.4, and D.5.5, scrubber 45F212 shall be in operation and control VOC and HAP emissions from emission units 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 45V298, and 45V299 at all times any of those emission units are in operation.

D.5.7 Particulate Control

In order to comply with Condition D.5.3, bin vents 45F25, 45F25A, and 9F103 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

D.5.8 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.5.9 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.5.1, D.5.4, and D.5.5, the Permittee shall perform VOC testing of scrubber 45F212 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) No later than 180 from the startup of Propylated Starch Reactors (45V298 and 45V299), in order to demonstrate compliance with Conditions D.5.1, D.5.2(b)(1), D.5.4, and D.5.5, the Permittee shall perform VOC testing of scrubber 45F212 utilizing methods as approved by the Commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(c) No later than 180 from the startup of Oxidized Starch Reactor, identified as 18V274, in order to demonstrate compliance with Condition D.5.2(b)(2), the Permittee shall perform VOC testing of stack 455 utilizing methods as approved by the Commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(d) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.10 Visible Emissions Notations

(a) Visible emission notations of the stacks' 64 and 68 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.5.11 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the pH across scrubber 45F212 at least once per day when any of the emission units being aspirated to scrubber 45F212 are in operation.

(1) When, for any one reading, the pH across the scrubber is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 0.5 and 4 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record monitor the recirculation rate from scrubber 45F212 continuously when any of the emission units being aspirated to scrubber 45F212 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 390 gallons per minute. If the 1-hr average flow rate falls below 390 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.5.1, D.5.4, and

D.5.5.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pH and flow rate shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.5.12 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 45F212 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.5.13 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.14 Record Keeping Requirements

(a) To document the compliance status with Conditions D.5.1, D.5.4, and D.5.5, the Permittee shall maintain monthly records for propylated starch reactions that do not undergo the acid-kill step to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303.

Note that this record is the same record as required in Condition D.7.14(a).

(b) To document the compliance status with Condition D.5.1(a) and D.5.2(b)(2) the Permittee shall maintain monthly records of the amount of acid-thinned starch produced without

peroxide from reactors 45V115, 45V116, and 45V222 and the amount of oxidized starch produced from reactor 18V274.

(c) To document the compliance status with Condition D.5.10, the Permittee shall maintain a daily record of visible emission notations of stacks 64 and 68 controlling the Starch Modification Operation exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.5.11, the Permittee shall maintain a daily record of:

(1) The pH across scrubber 45F212 controlling the Starch Modification Operation exhaust. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of a pH reading (e.g. the process did not operate that day).

(2) The scrubber recirculation rate, as read by the continuous monitor, from scrubber 45F212 controlling the Starch Modification Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(e) To document the compliance status with condition D.5.2(b)(1), the Permittee shall maintain monthly record of:

(1) The total throughput of the propylated starch to the two Propylated Starch Reactors, identified as 45V298 and 45V299.

(2) The amount of propylene oxide used in propylated starch reactions that do not undergo the 'acid kill step' in the Propylated Starch Reactors, identified as 45V298 and 45V299.

(f) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.5.15 Reporting Requirements

(a) A quarterly report of the total throughput of the propylated starch to the two propylated starch reactors, identified as 45V298 and 45V299 to document the compliance status with Conditions D.5.2(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(b) A quarterly report of the amount of propylene oxide used in propylated starch reactions that do not undergo the 'acid kill step' in the Propylated Starch Reactors, identified as 45V298 and 45V299 to document the compliance status with Conditions D.5.2(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(c) Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) Starch Reaction Operations, consisting of:

(1) One (1) Starch Feed Bin, identified as 33V1, constructed in 1995, with emissions controlled by bin vent 33F1, and exhausting via vent 236 to stack 355.

(2) One (1) Starch Feed Bin, identified as 33V2, constructed in 1995, with emissions controlled by bin vent 33F2, and exhausting via vent 237 to stack 355.

(3) One (1) Catalyst Bin, identified as 33V5, constructed in 1995, with emissions controlled by bin vent 33F5, and exhausting to stack 239.

(4) One (1) Low Pressure Dry Starch Reactor, identified as 33R1, constructed in 1995, with emissions controlled by baghouses 33F101 and 33F102, and exhausting to stack 238.

(5) One (1) High Pressure Dry Starch Reactor, identified as 33R2, constructed in 1995, with emissions controlled by baghouses 33F201 and 33F202, and exhausting to stack 240.

(6) One (1) Reactor Surge Bin, identified as 50V61, loaded pneumatically via Pneumatic Conveyor, identified as 33C8, constructed in 1997, with emissions controlled by bin vent 50F161, and exhausting via vent 241 to stack 361.

(7) One (1) Reactor Surge Bin, identified as 50V62, loaded pneumatically via Pneumatic Conveyor, identified as 33C4, constructed in 1997, with emissions controlled by bin vent 50F162, and exhausting via vent 242 to stack 361.

(8) One (1) Dry Starch Product Screening Receiver, identified as 50F45, constructed in 1995, with emissions controlled by integral product receiver/baghouse 50F45, and exhausting via vent 262 to stack 355.

(9) One (1) Dry Starch Product Screening Receiver, identified as 50F48, constructed in 1997, with emissions controlled by integral product receiver/baghouse 50F48, and exhausting via vent 243 to stack 355.

(10) One (1) Reactor 2 Mill, identified as 50G1, constructed in 1995, permitted in 2011, with emissions controlled by baghouse 50F48, and exhausting via vent 243 to stack 355.

(11) One (1) Dry Starch Blend Bin, identified as 33V42, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F42, and exhausting via vent 244 to stack 355.

(12) One (1) Dry Starch Blend Bin, identified as 33V43, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F43, and exhausting via vent 245 to stack 355.

(13) One (1) Dry Starch Blend Bin, identified as 33V40, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F40, and exhausting via vent 246 to stack 355.

(14) One (1) Dry Starch Blend Bin, identified as 33V41, loaded pneumatically via

Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F41, and exhausting via vent 247 to stack 355.

(15) One (1) Additives Mill, identified as 50G2, constructed in 1995, permitted in 2011, with emissions aspirated to the intakes of Bins 33V42, 33V43, 33V40, and 33V41.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Avoidance Limits for PSD [326 IAC 2-2] [326 IAC 6-3-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable, PM and PM_{10} emissions from emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed the emissions limits listed in the table below:

Facility	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Feed Bin (33V1)	236 to 355	0.29	0.29
Starch Feed Bin (33V2)	237 to 355	0.29	0.29
Low Pressure Dry Starch Reactor (33R1)	238	0.078	0.078
Catalyst Storage Bin (33V5)	239	0.034	0.034
High Pressure Dry Starch Reactor (33R2)	240	0.08	0.08
Dry Starch Product Screening Receiver (50F48), Reactor 2 Mill (50G1)	243 to 355	0.07, total	0.07, total
Dry Starch Blend Bins (33V42, 33V43, 33V40, 33V41), Additives Mill (50G2)	244, 245, 246, 247 to 355	0.55, total	0.55, total
Dry Starch Product Screening Receiver (50F45)	262 to 355	0.07	0.07

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45.

(b) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

The PSD avoidance limits for PM in Condition D.6.1(a) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.6.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities 50V61 and 50V62 shall be limited as follows:

The particulate emission rates from bin vents 50F161 and 50F162 shall not exceed 0.11 lb/hr, each.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.6.3 Particulate Control

(a) In order to comply with Conditions D.6.1 and D.6.2, baghouses 33F101, 33F102, 33F201, 33F202, 50F45, 50F48, and 50F11 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

(b) In order to comply with Conditions D.6.1 and D.6.2, bin vents 33F1, 33F2, 33F5, 50F161, 50F162, 33F42, 33F43, 33F40, and 33F41 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

D.6.4 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.5 Visible Emissions Notations

(a) Visible emission notations of the stacks' 238, 239, 240, 355, and 361 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.6.6 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.6.5, the Permittee shall maintain a daily record of visible emission notations of stacks 238, 239, 240, 355, and 361 controlling the Starch Reaction Operation exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Starch Drying and Handling Operations, consisting of:

(1) One (1) Adipic Acid Storage Bin, identified as 43V90, loaded pneumatically via truck unloading, constructed in 1996, with emissions controlled by bin vent 43F90, and exhausting to stack 274.

(2) One (1) Starch Flash Dryer #1, identified as 40D1, constructed in 1986, with a heat input capacity of 14.4 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F1 and 40F2 and scrubber 40F3, and exhausting to stack 69.

(3) One (1) Pneumatic Product Transfer, identified as 40F7, constructed in 1986, with emissions controlled by integral product receiver/baghouse 40F7 and scrubber 40F3, and exhausting to stack 69.

(4) One (1) Pneumatic Conveying to Mill Feed Receiver, identified as 25F1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F1, and exhausting to stack 147.

(5) One (1) Belt Dryer Mill, identified as 25G1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F2, and exhausting to stack 146.

(6) One (1) Starch Storage Bin #8, identified as 7V8, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F8, and exhausting to stack 71.

(7) One (1) Starch Storage Bin #9, identified as 7V9, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F9, and exhausting to stack 72.

(8) One (1) Starch Flash Dryer #2, identified as 40D20, constructed in 1990 and modified in 1991, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F20 through 40F25 and scrubber 40F26, and exhausting to stack 73.

(9) One (1) Grinder Feed Collector, identified as 40F27, constructed in 1990, and exhausting to the intake of bins 7V20, 7V21, 7V22 and 7V23.

(10) One (1) Starch Grinder/Mill #1, identified as 40G20, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F28, and exhausting via vent 286 to stack 360.

(11) One (1) Starch Grinder/Mill #2, identified as 40G21, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F29, and exhausting via vent 287 to stack 360.

(12) One (1) Starch Product Bin #20, identified as 7V20, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F20, and exhausting to stack 76.

(13) One (1) Starch Product Bin #21, identified as 7V21, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions

controlled by bin vent 7F21, and exhausting to stack 77.

(14) One (1) Starch Product Bin #22, identified as 7V22, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F22, and exhausting to stack 78.

(15) One (1) Starch Bin #33, identified as 7V23, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1995, with emissions controlled by bin vent 7F33, and exhausting to stack 267.

(16) One (1) Starch Flash Dryer #3, identified as 43D71, constructed in 1995, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 43F81 through 43F86 and scrubber 43F80, and exhausting to stack 265.

(17) One (1) Flash #3 Mill, identified as 40G88, constructed in 1996, with emissions controlled by integral product receiver/baghouse 40F88, and exhausting to stack 266.

(18) One (1) Starch Bin #34, identified as 7V34, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F34, and exhausting to stack 268.

(19) One (1) Starch Bin #35, identified as 7V35, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F35, and exhausting to stack 269.

(20) One (1) Starch Blend Bin #91, identified as 7V91, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F91, and exhausting to stack 345.

(21) One (1) Starch Blend Bin #92, identified as 7V92, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F92, and exhausting to stack 346.

(22) One (1) Starch Roll Dryer #1, identified as 41D1, constructed in 1986, with emissions uncontrolled, and exhausting to stack 91.

(23) One (1) Starch Roll Dryer #2, identified as 41D2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 92.

(24) One (1) Starch Roll Dryer #3, identified as 41D3, constructed in 1986, with emissions uncontrolled, and exhausting to stack 93.

(25) One (1) Starch Roll Dryer #4, identified as 41D4, constructed in 1993, with emissions uncontrolled, and exhausting to stack 94.

(26) One (1) Starch Roll Dryer #5, identified as 41D5, constructed in 1995, with emissions uncontrolled, and exhausting to stack 232.

(27) One (1) Starch Roll Dryer #6, identified as 41D6, constructed in 1995, with emissions uncontrolled, and exhausting to stack 233.

(28) One (1) Starch Roll Dryer #7, identified as 41D7, constructed in 1997, with emissions uncontrolled, and exhausting to stack 234.

(29) One (1) Starch Roll Dryer #8, identified as 41D8, constructed in 2000, with emissions uncontrolled, and exhausting to stack 235.

(30) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F200, constructed in 1986, with emissions controlled by product receiver/baghouse 41F200, and exhausting to the intake of mill 41G200.

(31) One (1) Roll Dryer Mill, identified as 41G200, constructed in 1986, with emissions controlled by integral product receiver/baghouse 41F210, and exhausting via vent 96 to stack 355.

(32) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F201, constructed in 1993, with emissions controlled by product receiver/baghouse 41F201, and exhausting to the intake of mill 41G201.

(33) One (1) Roll Dryer Mill, identified as 41G201, constructed in 1993, with emissions controlled by integral product receiver/baghouse 41F211, and exhausting via vent 100 to stack 355.

(34) One (1) Product Bin #10, identified as 41V10, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F10, and exhausting to stack 97.

(35) One (1) Product Bin #11, identified as 41V11, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F11, and exhausting to stack 98.

(36) One (1) Bulk Bag Dump Station, identified as 41F13, constructed in 2000, with emissions controlled by bin vent 41F13, and exhausting indoors to stack 344.

(37) One (1) 41 Building House Vacuum System, identified as 41F133, constructed in 2012, with emissions controlled by baghouse 41F133, and exhausting to stack 445.

(38) One (1) Spray Dryer #1, identified as 30D1, constructed in 1984, with a heat input capacity of 24 MMBtu/hr, with emissions controlled by integral product collector/cyclones 30F7 and 30F8 and product receivers/baghouses 30F2 and 30F3, and exhausting to stack 82.

(39) One (1) Product Transfer to Bins #14 and #15, identified as 41C145, constructed in 1987 and approved for modification in 2013, with emissions controlled by intermediate product collector/baghouse 30F133 using blower 30C133, exhausting to the product transfer system and integral product collector/baghouses 41F14 and 41F15, respectively, and exhausting via vent 85 to stack 355.

(40) One (1) Product Bin #14, identified as 41V14, constructed in 1987, with emissions controlled by bin vent 41F16, and exhausting to stack 87.

(41) One (1) Product Bin #15, identified as 41V15, constructed in 1987, with emissions controlled by bin vent 41F17, and exhausting to stack 88.

(42) One (1) Regular Starch Belt Dryer D4, identified as 16D4, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F26 and 17F78, and exhausting to stack 177.

(43) One (1) Belts Product Conveying Mill Product to Bins #4, and #5, identified as 7F25,

constructed in 1966, with emissions controlled by integral product collector/baghouse 7F25, and exhausting to stack 103.

(44) One (1) Product Bin #4, identified as 7V47, constructed in 1966, with emissions controlled by bin vent 7F70, and exhausting to stack 106.

(45) One (1) Product Bin #5, identified as 7V46, constructed in 1966, with emissions controlled by bin vent 7F69, and exhausting to stack 105.

(46) One (1) Spray Agglomeration System, identified as 50D101, constructed in 2001, with a heat input capacity of 6.2 MMBtu/hr, with emissions controlled by integral product collector/cyclones 50F111 and 50F112; and product receiver/baghouse 50F102, and exhausting via vent 349 to stack 361.

(47) One (1) Bulk Bag Feed #1 Dump Station, identified as 50V111, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(48) One (1) Bulk Bag Feed #2 Dump Station, identified as 50V112, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(49) One (1) Agglomeration Blender Receiver/Baghouse, identified as 50F106, loaded pneumatically via Pneumatic Conveyor, identified as Feed Blower 50C107, constructed in 2001, with emissions controlled by integral product collector/baghouse 50F106, and exhausting via vent 350 to stack 361.

(50) One (1) Natural Gas Fired Spray Dryer #2, identified as 46D200, constructed in 2006, with a heat input capacity of 25 million Btu per hour, with PM and PM_{10} emissions controlled by integral cyclones 46F221 through 46F224 and baghouses 46F231 through 46F232, and exhausting via vent 360 to stack 360. Nitrogen oxide (NO_x) emissions are controlled by low-NO_x burners rated at 0.04 lb/MMBtu.

(51) One (1) Product Transfer to Milling, identified as 30F13, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F13, and exhausting to the intakes of bins 41V45, 41V46, 41V47, and 33V44.

(52) One (1) Dryer Mill, identified as 30G1, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F15, and exhausting via vent 84 to stack 360.

(53) One (1) Product Bin #45, identified as 41V45, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F45, and exhausting to stack 226.

(54) One (1) Product Bin #46, identified as 41V46, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F46, and exhausting to stack 255.

(55) One (1) Product Bin #47, identified as 41V47, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F47, and exhausting via vent 432.

(56) One (1) Starch Product Bin #44, identified as 33V44, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 1995, with emissions controlled by bin vent 33F44, and exhausting to stack 248.

(57) One (1) Starch Roll Dryer #301, identified as 19D301, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 405A and 405B.

(58) One (1) Starch Roll Dryer #302, identified as 19D302, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 406A and 406B.

(59) One (1) Starch Roll Dryer #303, identified as 19D303, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 407A and 407B.

(60) One (1) Starch Roll Dryer #304, identified as 19D304, approved in 2014 for construction, with emissions uncontrolled, and exhausting to stacks 408A and 408B.

(61) One (1) Starch Roll Dryer #305, identified as 19D305, approved in 2014 for construction, with emissions uncontrolled, and exhausting to stacks 409A and 409B.

(62) One (1) Roll Dryer Mill Feed Collector Baghouse, identified as 19F400, constructed in 2006, with emissions controlled by product collector/cyclone 19F400, and exhausting to the intake of Mill 19G401.

(63) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by integral product collector/baghouse 19F402, and exhausting to stack 366.

(64) One (1) Product Transfer to Bins #17 and #18, identified as 41C35, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F20 and 41F21, respectively, and exhausting via vent 86 to stack 355.

(65) One (1) Product Bin #17, identified as 41V17, constructed in 1987, with emissions controlled by bin vent 41F22, and exhausting to stack 89.

(66) One (1) Product Bin #18, identified as 41V18, constructed in 1987, with emissions controlled by bin vent 41F23, and exhausting to stack 90.

(67) #2 Starch Agglomerator, identified as 52D201, approved in 2014 for construction, controlled by four product collection cyclones (52F211 - 52F214) and baghouse 52F202, and exhausting to stack 361. #2 Starch Agglomerator system consists of the following:

(A) One (1) dryer equipped with a direct-fired natural gas low NOx burner, with heat input capacity of 20 MMBtu/hr.

(B) One (1) mechanical fluid bed, identified as 52Y202, aspirated to the inlet of the agglomerator.

(C) One (1) fines recycle system, identified as 52C207, transferring product to the inlet of the agglomerator.

(D) One (1) #5 tote packing system with head hopper, identified as 52V245 and tote packer, identified as 52Z245 aspirated to the Packer #6 House Dust Collector, identified as 56F602, exhausting via vent 381 to stack 380.

(E) One (1) #7 bag packing system with head hopper, identified as 52V214 and bag packer, identified as 56Z700 aspirated to four product collection cyclones (52F211-52F214) and baghouse 52F202, exhausting to stack 361. General

aspiration of the packer #7 bag conveying equipment is by the packer #6 House Dust Collector, identified as 56F602.

(68) Two (2) product storage bins, identified as 52V250 and 52V251, approved in 2014 for construction, controlled by bin vent filters, identified as 52F250 and 52F251, and exhausting to stacks 401 and 402. Only one of the two product storage bins can receive product from the agglomerator at any time.

(69) #4 Starch Flash Dryer, identified as 54D450, approved in 2014 for construction, controlled by six product collection cyclones, identified as 54F451-54F456, followed by a wet scrubber, identified as 54F460, and exhausting to stack 388, with a bottlenecked capacity of 250 million lb/year of propylated starch. #4 Starch Flash Dryer System consists of the following:

(A) One (1) dryer equipped with a direct-fired natural gas low-NOx burner, with heat input capacity of 40 MMBtu/hr.

(B) One (1) Starch Densifier Mill Surge Hopper, identified as 54V470, controlled by bin vent filter, identified as 54F471, and exhausting to stack 389.

(C) Three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, equipped with bin vent filters, identified as 54F440, 54F441, and 54F4CC, and exhausting to stacks 385, 386, and 387.

(D) One (1) Product Bin #1, identified as 07V50, approved in 2014 for construction, formerly associated with Special Belt Dryer 16D5, with emissions controlled by bin vent 07F73, and exhausting to stack 109.

(E) One (1) Product Bin #2, identified as 07V49, approved in 2014 for construction, formerly associated with Special Belt Dryer 16D5, with emissions controlled by bin vent 07F72, and exhausting to stack 108.

(F) One (1) Product Bin #3, identified as 07V48, approved in 2014 for construction, , formerly associated with Special Belt Dryer 16D5, with emissions controlled by bin vent 07F71, and exhausting to stack 107.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using BACT:

(1) Product Storage Bin #46 (41V46),

(2) Roll Dryer System Mill (19G401),

(3) Product Transfer to Bins 14 & 15 (41C145),

(4) Product Transfer to Bins 17 & 18 (41C35),

(5) Product Bin 14 (41V14),

(6) Product Bin 15 (41V15),

(7) Product Bin 17 (41V17),

(8) Product Bin 18 (41V18),

(9) Product Storage Bin #45 (41V45),

(10) Product Storage Bin (33V44),

(11) Starch Grinder/Mill #1 (40G20),

(12) Starch Grinder/Mill #2 (40G21),

(13) Starch Product Bin #20 (7V20),

(14) Starch Product Bin #21 (7V21),

(15) Starch Product Bin #22 (7V22),

(16) Starch Product Bin #23 (7V23), and

(17) Product Bin #47 (41V47).

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses, and:

(1) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouses	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
41V46	41F46	0.08	0.08
19G401	19F402	0.73	0.73
41C145	41F14 & 41F15	0.08	0.08
41C35	41F20 & 41F21	0.08	0.08
41V14	41F16	0.01	0.01
41V15	41F17	0.01	0.01
41V17	41F22	0.01	0.01
41V18	41F23	0.01	0.01
41V45	41F45	0.08	0.08
33V44	33F44	0.08	0.08
40G20	40F28	0.14	0.14
40G21	40F29	0.14	0.14
7V20	7F20	0.09	0.09
7V21	7F21	0.09	0.09
7V22	7F22	0.09	0.09
7V23	7F33	0.09	0.09
41V47	41F47	0.08	0.08

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(4) The opacity from the stack exhausts except for 40F28 and 40F29 shall not exceed 3%.

(5) The opacity from baghouses 40F28 and 40F29 shall not exceed 8%.

(b) The following emission unit shall be controlled for PM and PM_{10} using BACT:

Spray Dryer #2 (46D200).

The BACT for PM and PM_{10} is the use of a baghouse, and:

(1) PM emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(2) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(3) PM emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(5) The opacity from the baghouse exhaust shall not exceed 8%.

(c) The following emission unit shall be controlled for PM and PM_{10} using BACT:

Starch Flash Dryer #2 (40D20).

The BACT for PM and PM_{10} is the use of a scrubber, and:

(1) PM emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(2) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(3) PM emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(5) The opacity from the scrubber exhaust shall not exceed 8%.

(d) For the following emission unit, BACT for NO_x is the use of low-NO_x burners rated at 0.04 lb/MMBtu or less and shall not exceed the emission rate as given below:

	Lbs/hr
Starch Spray Dryer #2 (46D200)	1.0

(e) The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293,

45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis, and:

(1) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(2) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

D.7.2 Avoidance Limits for PSD [326 IAC 2-2] [326 IAC 6-3-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from emission units 40D1, 40F7, 7V8, and 7V9 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)
Starch Flash Dryer #1 (40D1)	69	1.4
Pneumatic Product Transfer (40F7)		
Starch Storage Bin #8 (7V8)	71	0.03
Starch Storage Bin #9 (7V9)	72	0.03

Compliance with the above limits will render the requirements of 326 IAC 2-2 not applicable to emission units 40D1, 40F7, 7V8, and 7V9.

(b) In order to render the requirements of 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(1) PM emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

(2) PM_{10} emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

Compliance with the above limits, combined with the limited emissions from emission units 17Z03, 17F15, and 17V06 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 not applicable to emission unit 43V90.

(c) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-9182-00003, AA 157-15029-00003, and SPM 157-19702-00003, the PM and PM_{10} emissions from emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Flash Dryer #3 (43D71)	265	7.54	7.54

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Flash #3 Mill (40G88)	266	0.23	0.23
Starch Product Bins (7V34, 7V35, 7V91, 7V92)	268, 269, 345, 346	0.2 each	0.2 each

Compliance with the above limits, combined with the netting projects according to CP 157-4160-00003 and A 157-6170-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92.

(d) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-5294-00003 and Significant Source Modification 157-30564-00003, the PM_{10} emissions from emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM_{10} Limit (lb/hr)
Roll Dryer 41F200 and Roll Dryer Mill 41G200	96 to 355	0.28
Product Bin #10 (41V10) and Product Bin #11 (41V11)	97 98	0.03
Roll Dryer 41F201 and Roll Dryer Mill 41G201	100 to 355	0.39
Bulk Bag Dump Station (41F13)	344	0.03
Spray Dryer (30D1)	82	4.45
Dryer Mill (30G1)	84	0.95

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41F8, 41F81, 41F82, and 41F6 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1.

(e) In order to render the requirements of 326 IAC 2-2 not applicable, the PM and PM_{10} emissions from emission units 50V111, 50V112, 50F106, and 50D101 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
#1 Dump Station (50V111), #2 Dump Station (50V112), Agglomeration Blender/Receiver (50F106)	350 to 361	0.10, total	0.10, total
Spray Agglomeration System (50D101)	349 to 361	1.10	1.10

Compliance with the above limits, combined with the limited emissions from emission units 7V91, 7V92, 41D8, and 41F13, will render the requirements of 326 IAC 2-2 not applicable to emission units 50V111, 50V112, 50F106, and 50D101.

(f) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 40D1, 7V8, 7V9, 43D71, 40G88, 7V34, 7V35, 7V91, 7V92, 50V111, 50V112, 50F106, and 50D101 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

The PSD avoidance limits for PM in Conditions D.7.2(a), D.7.2(c), and D.7.2(e) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.7.3 Prevention of Significant Deterioration (PSD) Minor Limit PM, PM_{10}, $PM_{2.5}$, SO_2, VOC [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014/2015 modification, the applicant shall comply with the following:

(a) Starch Roll Dryer #304 (ID 19D304) and Starch Roll Dryer #305 (ID 19D305)

(1) The VOC emissions from each dryer shall not exceed 6 pounds per 100,000 pounds of propylated starch.

(2) The combined throughput to the Starch Roll Dryer #304 (ID 19D304) and Starch Roll Dryer #305 (ID 19D305) shall be limited to a total of 56 million pounds of starch per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) #2 Starch Agglomerator, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202, Fines Recycle System, identified as 52C207, and Bag Packer #7, identified as 56Z700

(1) The combined PM emissions from #2 Starch Agglomerator, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202, Fines Recycle System, identified as 52C207, bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700, shall not exceed 2.00 lb/hr.

(2) The combined PM10 emissions from #2 Starch Agglomerator, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202, Fines Recycle System, identified as 52C207, bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700, shall not exceed 3.08 lb/hr.

(3) The combined PM2.5 emissions from #2 Starch Agglomerator, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202, Fines Recycle System, identified as 52C207, bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700, shall not exceed 2.19 lb/hr.

(4) The NOx emissions from the low NOx burner shall not exceed 0.04 lb/MMBtu.

(5) The CO emissions from the low NOx burner shall not exceed 0.08 lb/MMBtu.

(c) Two (2) product storage bins, identified as 52V250 and 52V251

(1) The PM emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.10 lb/hr, each.

(2) The PM10 emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.10 lb/hr, each.

(3) The PM2.5 emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.054 lb/hr, each.

(4) Only one (1) of the two (2) product storage bins, identified as 52V250 and 52V251, shall be in operation at time.

(d) #4 Starch Flash Dryer (54D450)

(1) The VOC emissions from the #4 Starch Flash Dryer (54D450), including VOC emissions from the Flash 4 Slurry Hold Tank (54V401), Flash 4 Larox Filter Feed Tank (54V403), and Flash 4 Larox Filters (54F421, 54F422, and 54F4MM) and Flash 4 Air Release Tanks (54V421 and 54V4MM), shall not exceed 6 pounds per 100,000 pounds of propylated starch.

(2) The propylated starch production on #4 Starch Flash Dryer (54D450), shall be limited to a total of 240 million pounds of propylated starch per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The PM emissions from #4 Starch Flash Dryer, identified 54D450, shall not exceed 4.46 lb/hr.

(4) The PM10 emissions from #4 Starch Flash Dryer, identified 54D450, shall not exceed 6.4 lb/hr.

(5) The PM2.5 emissions from #4 Starch Flash Dryer, identified 54D450, shall not exceed 4.91 lb/hr.

(6) The NOx emissions from the low NOx burner shall not exceed 0.04 lb/MMBtu.

(7) The CO emissions from the low NOx burner shall not exceed 0.08 lb/MMBtu.

(e) The PM emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.02 lb/hr.

(f) The PM10 emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.02 lb/hr.

(g) The PM2.5 emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.01 lb/hr.

(h) The PM emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.13 lb/hr each.

(i) The PM10 emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.13 lb/hr each.

(j) The PM2.5 emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.07 lb/hr each.

(k) The PM emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed 0.13 lb/hr each.

(l) The PM10 emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed 0.13 lb/hr each.

(m) The PM2.5 emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed 0.07 lb/hr each.

(n) PM emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

(o) PM10 emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

(p) $PM_{2.5}$ emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.4.1, D.5.2, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014/2015 modification to less than twenty-five (25) tons PM, fifteen (15) tons PM10, ten (10) tons PM2.5, forty (40) tons SO2, forty (40) tons NOx, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014/2015 modification.

D.7.4 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 43V90, 40F7, 25F1, 25G1, 16D4, 7F25, 7V50, 7V49, 7V48, 7V47, 7V46, 52D201, 52Y202, 52C207, 54D450, 52V214, 54V470, 56Z700, 54V440, 54V441, 54V4CC, 07V50, 07V49, 07V48, 52V250, and 52V251 shall be limited as follows:

(a) The particulate emission rate from bin vent 43F90 shall not exceed 0.03 lb/hr. Note: This particulate emission rate limit is more restrictive than the limit provided under Condition D.7.2(b) and represents the PTE of the emission unit after control.

(b) The particulate emission rates from baghouses 7F25 shall not exceed 0.03 lb/hr.

(c) The particulate emission rate from baghouse 25F1 shall not exceed 0.05 lb/hr.

(d) The particulate emission rate from baghouse 25F2 shall not exceed 0.23 lb/hr.

(e) The particulate emission rates from scrubbers 16F26 and 17F78 shall not exceed 3.89 lb/hr, combined.

(f) The particulate emission rates from bin vents 7F70, and 7F69 shall not exceed 0.06 lb/hr, each.

(g) The combined PM emissions from Agglomerator #2, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202 and Fines Recycle System, identified as 52C207, bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700, shall not exceed 2.00 lb/hr.

(h) The PM emissions from #4 Starch Flash Dryer, identified 54D450, shall not exceed 4.46 lb/hr.

(i) The PM emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.02 lb/hr.

(j) The PM emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.13 lb/hr each.

(k) The PM emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, and 07V48 shall not exceed 0.13 lb/hr each.

(l) The PM emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.10 lb/hr each.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on and on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.7.5 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in to PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003, the following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and

(a) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(b) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

Compliance Determination Requirements

D.7.6 Particulate Control

(a) In order to comply with Conditions D.7.1, D.7.2, and D.7.4, scrubbers 40F3, 40F26, 43F80, 16F26, and 17F78 for particulate control shall be in operation and control emissions from facilities 40D1, 40D20, 43D71, and 16D4 at all times the respective facilities are in operation.

(b) In order to comply with Conditions D.7.1, D.7.2, and D.7.4, baghouses 40F7, 25F1, 25F2, 40F28, 40F29, 40F88, 41F200, 41F210, 41F201, 41F211, 30F2, 30F3, 41F14, 41F15, 7F25, 50F102, 50F106, 46F231, 46F232, 30F15, 19F402, 41F20, and 41F21 for particulate control shall be in operation and control particulate emissions from emission

units 40F7, 25F1, 25G1, 40G20, 40G21, 40G88, 41F200, 41G200, 41F201, 41G201, 30D1, 41C145, 7F25, 50D101, 50V111, 50V112, 50F106, 46D200, 30G1, 19G401, and 41C35 at all times those emission units are in operation.

(c) In order to comply with Conditions D.7.1, D.7.2, and D.7.4, bin vents 43F90, 7F8, 7F9, 7F20, 7F21, 7F22, 7F23, 7F34, 7F35, 7F91, 7F92, 41F10, 41F11, 41F13, 41F16, 41F17, 7F73, 7F72, 7F71, 7F70, 7F69, 41F45, 41F46, 41F47, 33F44, 41F22, and 41F23 for particulate control shall be in operation and control particulate emissions from emission units 43V90, 7V8, 7V9, 7V20, 7V21, 7V22, 7V23, 40F27, 7V34, 7V35, 7V91, 7V92, 41V10, 41V11, 41F13, 41V14, 41V15, 7V50, 7V49, 7V48, 7V47, 7V46, 41V45, 41V46, 41V47, 33V44, 30F13, 41V17, and 41V18 at all times those facilities are in operation.

(d) In order to comply with Condition D.7.1(b), integral cyclones 46F221 through 46F224 shall be in operation and control particulate emissions from emission unit 46D200 at all times when the material feed system to emission unit 46D200 is in operation.

(e) In order to comply with Condition D.7.1(a), integral product collector/baghouse 19F402 shall be in operation and control particulate emissions from emission unit 19G401 at all times when the material feed system to emission unit 19G401 is in operation.

(f) In order to comply with Conditions D.7.3 and D.7.4, scrubber 54F460 for particulate control shall be in operation and control emissions from facility 54D450 at all times the respective facility is in operation.

(g) In order to comply with Conditions D.7.3 and D.7.4, baghouses 41F133, 52F202, 52F250, 52F251, 54F471, 54F440, 54F441, 54F4CC, 07F71, 07F72, and 07F73 for particulate control shall be in operation and control particulate emissions from emission units 41F133, 56Z700, 52V214, 52D201, 52Y202, 52C207, 52V250, 52V251, 54V470, 54V440, 54V441, 54V4CC, 07V48, 07V49, and 07V50 at all times those emission units are in operation.

D.7.7 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.7.8 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.7.1(a), the Permittee shall perform PM and PM_{10} testing of emission unit 19G401 and one of the emission units 40G20 and 40G21 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} includes both filterable and condensable PM.

(b) In order to demonstrate compliance with Condition D.7.1(b), not later than 180 days after the issuance of permit, T157-27029-00003, the Permittee shall perform PM and PM_{10} testing of emission unit 46D200 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} includes both filterable and condensable PM.

(c) In order to demonstrate compliance with Condition D.7.1(c), the Permittee shall perform PM and PM_{10} testing of emission unit 40D20 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} includes both filterable and condensable PM.

(d) In order to demonstrate compliance with Conditions D.7.1(e) and D.7.5(a), the Permittee shall perform VOC testing of scrubber 45F212 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

(e) In order to demonstrate compliance with Condition D.7.3(a), not later than 180 days after the startup of Starch Roll Dryers #304 and #305 Permittee shall perform VOC testing on either Starch Roll Dryer #304 or #305 utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration and the unit tested shall be the unit in which the longest amount of time has elapsed since its previous test.

(f) In order to demonstrate compliance with Condition D.7.3(b)(1), (2), and (3), not later than 180 days after the startup of the Agglomerator #2, identified as 52D201, the Mechanical Fluid Bed, identified as 52Y202, the Fines Recycle System, identified as 52C207, and Bag Packer #7, identified as 56Z700, the Permittee shall perform PM, PM10, and PM2.5 testing utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(g) In order to demonstrate compliance with Conditions D.7.3(c)), not later than 180 days after the startup of the product storage bins, identified as 52V250 and 52V251, the Permittee shall perform PM, PM10, and PM2.5 testing on one of the bin vent filters controlling these emission units utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration and the unit tested shall be the unit in which the longest amount of time has elapsed since its previous test. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(h) In order to demonstrate compliance with Condition D.7.3(d), not later than 180 days after the startup of the #4 Starch Flash Dryer, identified as 54D450, the Permittee shall perform PM, PM10, and PM2.5 testing utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(i) In order to demonstrate compliance with Conditions D.7.3(h), (i), and (j), and Condition D.7.3(k), (l), and (m), not later than 180 days after the startup of the three (3) Product Storage Bins, identified as 54V440, 54V441, 54V4CC or the three (3) Product Bins #1, #2, #3, identified as 07F50, 07F49, and 07F48 the Permittee shall perform PM, PM10, and PM2.5 testing on one of the six (6) bin vent filters controlling these units utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration and the

unit tested shall be the unit in which the longest amount of time has elapsed since its previous test. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(j) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.9 Visible Emissions Notations

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the stacks' 69, 73, 177, 265, 360, and 361 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stacks' 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 361, 366, 385, 386, 387, 388, 389, 401, 402 and 432 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.7.10 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the recirculation rate from scrubber 40F26 continuously when emission unit 40D20 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 300 gallons per minute. If the 1-hr average flow rate falls below 300 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.1(c).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow

rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the recirculation rate from scrubber 43F80 continuously when emission unit 43D71 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above 300 gallons per minute. If the 1-hr average flow rate falls below 300 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.2(c).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the recirculation rate from scrubber 40F3 at least once per day when emission unit 40D1 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 70 gallons per minute. If the flow rate falls below 70 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.2(a).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The Permittee shall monitor and record the recirculation rate from scrubbers 16F26, 17F78 at least once per day when emission units and 16D4 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of five (5) gallons per minute. If the flow rate falls below five (5) gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.7.4(f).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(e) The Permittee shall monitor and record the recirculation rate from scrubber 54F460 continuously when emission unit 54D450 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 1,000 gallons per minute. If the flow rate falls below 1,000 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.3(d).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(f) The instruments used for determining the recirculation rate shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.7.11 Baghouse Parametric Monitoring

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouses 30F2, 30F3, 46F231, and 46F232 used in conjunction with emission units 30D1 and 46D200 at least once per day when the respective emission units are in operation.

(b) The Permittee shall record the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F210, 41F211, 19F402, 30F15, 50F102, and 52F202 used in conjunction with emission units 25G1, 40G20, 40G21, 40G88, 41G200, 41G201, 19G401, 30G1, and 50D101, and 52D201 at least once per day when the respective emission units are in operation.

(c) When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the normal range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.7.12 Scrubber Failure Detection

In the event that scrubber failure for emission units 40D20, 43D71, 40D1, 16D4 and/or 54D450 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.7.13 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.14 Record Keeping Requirements

(a) To document the compliance status with Conditions D.7.1(e) and D.7.5, the Permittee shall maintain monthly records for propylated starch reactions that do not undergo the acid-kill step to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303.

Note that this record is the same record as required in Condition D.5.14(a).

(b) To document the compliance status with Condition D.7.9, the Permittee shall maintain a daily record of visible emission notations of stacks 69, 73, 177, 265, 360, 361, 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 361, 366, 385, 386, 387, 388, 389, 401, 402, and 432 controlling the Starch Drying and Handling Operation exhaust. The Permittee shall

include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) To document the compliance status with Conditions D.7.10(a)**,** D.7.10(b), and D.7.10(e) the Permittee shall maintain a daily record of the scrubber recirculation rates, as read by the continuous monitor, from scrubber 40F26, scrubber 43F80, and scrubber 54F460 controlling the Starch Drying and Handling Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(d) To document the compliance status with Conditions D.7.10(c) and D.7.10(d), the Permittee shall maintain a daily record of the scrubber recirculation rates from scrubbers 40F3, 16F26, and 17F78 controlling the Starch Drying and Handling Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.7.11, the Permittee shall maintain a daily record of the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F210, 41F211, 19F402, 30F2, 30F3, 30F15, 46F231, 46F232, 50F102, and 52F202 controlling the Starch Handling and Drying Operation exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(f) In order to document the compliance status with Condition D.7.3(d)(2), the Permittee shall maintain a monthly record of the propylated starch produced on #4 Starch Flash Dryer (54D450).

(g) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.7.15 Reporting Requirements

(a) A quarterly report of the combined propylene oxide input to document the compliance status with Conditions D.7.1(e)(2), D.7.3(a)(2), D.7.3(d)(2), and D.7.5(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(b) A quarterly report of propylated starch production on #4 Starch Flash Dryer (54D450), to document the compliance status with condition D.7.3(d)(2) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(c) Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.8 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(h) Starch Packaging and Loadout Operations, consisting of:

(1) One (1) Product Bin #6/House Vacuum System, identified as 17V6, constructed in 1984, with emissions controlled by integral product receiver/cyclone 17F5 and baghouse 17F6, and exhausting via vent 190 to stack 177.

(2) One (1) Reprocess Bag Dump, identified as 17U58, constructed in 1997, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(3) One (1) Reprocess Tote Dump, identified as 17U59, constructed in 1997, permitted in 2011, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(4) One (1) Product Transfer to Main Packer #1, identified as 16F5, constructed in 1966, with emissions controlled by integral product collector/baghouse 16F5, and exhausting to stack 102.

(5) One (1) Cationic Product Receiver for Packer #1, identified as 17F27, constructed in 1966, with emissions controlled by integral baghouse 17F27, and exhausting to stack 102.

(6) One (1) Packer #1, identified as 17Z38, constructed in 1966, with emissions controlled by cyclone 17F9 and baghouse 17F10, and exhausting to stack 177.

(7) One (1) Packer #1 Reject Bag Dump, identified as 17V04, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F10, and exhausting to stack 177.

(8) One (1) Bag Packer #2, identified as 17Z01, constructed in 1995, with emissions controlled by integral product collector/baghouse 17F01, and exhausting to stack 177.

(9) One (1) Bag Packer #2 House Dust Collector, identified as 17F02, constructed in 1995, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(10) One (1) Packer #2 Reject Bag Dump, identified as 17V05, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(11) One (1) Roll Dried Starch Product Transfer to Bag Packer #3 (41Z5), identified as 41F18, constructed in 2007, with emissions controlled by integral baghouse 41F18, and exhausting via vent 186 to stack 355.

(12) One (1) Roll Dried Starch Products Bag Packer #3, identified as 41Z5, constructed in 2007, with emissions controlled by baghouse 41F18, and exhausting via vent 186 to stack 355.

(13) One (1) Spray Cook Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F7, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7, and exhausting via vent 184 to stack 355.

(14) One (1) O.S. Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F181,

constructed in 2007, with emissions controlled by integral baghouse 41F181, and exhausting via vent 184 to stack 355.

(15) One (1) Spray Cook/O.S. Starch Products Bag Packer #3, identified as 41Z3, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7 or baghouse 41F181, and exhausting via vent 184 to stack 355.

(16) One (1) Malto Product Transfer to Bag Packer #3 (41Z1), identified as 41F182, constructed in 2007, with emissions controlled by integral baghouse 41F182, and exhausting via vent 428 to stack 355.

(17) One (1) Malto Products Bag Packer #3, identified as 41Z1, constructed in 2007, with emissions controlled by baghouse 41F182, and exhausting via vent 428 to stack 355.

(18) One (1) Dry Starch Reacted Product Transfer to Bag Packer #3 (41Z2), identified as 41F183, constructed in 2007, with emissions controlled by integral baghouse 41F183, and exhausting via vent 429 to stack 355.

(19) One (1) Dry Starch Reacted Products Bag Packer #3, identified as 41Z2, constructed in 2007, with emissions controlled by baghouse 41F183, and exhausting via vent 429 to stack 355.

(20) One (1) Bag Packer #3 House Dust Collector, identified as 41F186, constructed in 2007, with emissions controlled by baghouse 41F186, and exhausting via vent 430 to stack 355.

(21) One (1) Bag Packer #3 House Dust Collector, identified as 41F44, constructed in 1995, with emissions controlled by baghouse 41F44, and exhausting via vent 256 to stack 361.

(22) One (1) Bag Packer #4, identified as 17Z03, constructed in 1995, with emissions controlled by integral product collector/baghouses 17F03 and 17F04, and exhausting via vent 332 to stack 356.

(23) One (1) House Dust Collection System for Bag Packer #4, identified as 17F15, constructed in 1995, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(24) One (1) Packer #4 Reject Bag/Tote Dump, identified as 17V06, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(25) One (1) Bag Packer #6 System, approved in 2014 for construction, consisting of the following:

(A) One (1) Packer #6 Product Receiver, identified as 56F601, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(B) One (1) Packer #6 Head Hopper, identified as 56V600, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(C) One (1) Bag Packer #6, identified as 56Z600, consisting of four (4) bag packing stations, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(D) One (1) Reprocess Bag Dump Transfer Line, identified as 56C630, with emissions controlled by baghouse 56F601, and exhausting to stack 380.

(E) One (1) Packer #6 House Dust Collector, identified as 56F602, controlling emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6 and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, and exhausting via vent 381 to stack 380.

(F) One (1) Reprocess Bag Dump, identified as 56V630 with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack 380.

(G) One (1) Packer #6 Screenings Transfer System, identified as 56C604, with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack 380.

(26) One (1) Product Transfer for Bulk Bagger #1 (16J44), identified as 16F25, constructed in 1988, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(27) One (1) Bulk Bagger #1, identified as 16J44, constructed in 1988, permitted in 2011, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(28) One (1) Product Transfer for Bulk Bagger #2 (17Z14), identified as 17F14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(29) One (1) Bulk Bagger #2, identified as 17Z14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(30) One (1) Product Receiver for Bulk Bagger #3, identified as 41F8, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F8, and exhausting via vent 208 to stack 355.

(31) Two (2) Product Receivers for Bulk Bagger #3, identified as 41F81 and 41F82, constructed in 1997, with emissions controlled by integral product receiver/baghouses 41F81 and 41F82, and exhausting via vent 208 to stack 355.

(32) One (1) Bulk Bagger #3, identified as 41Z6, constructed in 1988, permitted in 2011, with emissions controlled by cyclone 41F60 and baghouse 41F44, and exhausting via vent 256 to stack 361.

(33) One (1) Bulk #1 Product Screening System, identified as 20F1, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F1, and exhausting via vent 330 to stack 404.

(34) One (1) Bulk #2 Product Screening System, identified as 20F50, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F50, and exhausting via vent 331 to stack 404.

(35) One (1) Bulk Starch Rail Loadout #1 (Track #9), identified as 20F61, constructed in 1966, with emissions controlled by baghouse 20F61, and exhausting via vent 135 to stack 404.

(36) One (1) Bulk Starch Rail Loadout #2 (Track #10), identified as 20F60, constructed in

1993, with emissions controlled by baghouse 20F60, and exhausting via vent 79 to stack 404.

(37) One (1) Pneumatic Truck Loadout, identified as 20F78 and 20F79, constructed in 1997, with emissions controlled by baghouses 20F78 and 20F79, and exhausting via vent 264 to stack 404.

(38) One (1) Bulk Starch Rail Loadout #3 (J4), identified as 16F100, constructed in 1989, with emissions controlled by baghouse 16F100, and exhausting via vent 183 to stack 177.

(39) One (1) Dextrin/Roll/Spray Cooked Starch Bulk Truck Loadout, identified as 41F6, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F6, and exhausting to stack 189.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.8.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using BACT:

(1) Bulk Starch Rail Loadout #2 (20F60);

(2) Packer #3 Product Receivers and Packers (41F7, 41F181, 41Z3, 41F18, 41Z5, 41F182, 41Z1, 41F183, and 41Z2); and

(3) Packer #3 House Dust Collector (41F186).

(b) For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses, and:

(1) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouse	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
20F60	20F60	0.09	0.09
41F7	41F7	0.11	0.11
41F181	41F181		
41Z3	41F7 or 41F181		
41F18	41F18	0.11	0.11
41Z5	41F18		
41F182	41F182	0.11	0.11
41Z1	41F182		
41F183	41F183	0.11	0.11
41Z2	41F183		
41F186	41F186	0.65	0.65

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(4) The opacity from the stack exhausts shall not exceed 3%.

D.8.2 Avoidance Limits for PSD [326 IAC 2-2] [326 IAC 6-3-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4160-00003 and Significant Source Modification 157-30564-00003, the PM emissions from emission units 17F01, 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM limit (lb/hr)	PM_{10} limit (lb/hr)
Product receiver (17F01) for Bag Packer #2 (17Z01)	177	0.17	N/A
Reprocess Tote Dump (17U59), Reprocess Bag Dump (17U58)	334	0.03, total	0.03, total
Bulk Bagger #2 (17Z14), Product Transfer for Bulk Bagger #2 (17F14)	254	0.08, total	0.08, total
Bulk #1 Product Screen (20F1), Bulk #2 Product Screen (20F50)	330/331 to 404	1.0, total	1.0, total
Pneumatic Truck Loadout (20F78/20F79)	404	0.12, total	0.12, total

Compliance with the above limits, combined with the netting project according to CP 157-2993-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 17F01, 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79.

(b) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from 17Z03 (controlled by baghouses 17F03 and 17F04), 17F15, and 17V06 shall not exceed 2.2 pounds per hour, combined. Compliance with this limit, combined with the limited emissions from emission unit 43V90 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 not applicable to emission units 17Z03, 17F15, and 17V06.

(c) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-5294-00003, A 157-6571-00003, and Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Bulk Bagger #3 (41Z6), Bag Packer #3 House Dust Collector (41F44)	256 to 361	0.69, total	0.69, total
Bulk Bagger #1 (16J44), Product Transfer for Bulk Bagger #1 (16F25)	191 to 177	0.13, total	0.13, total
Product Receivers for #3 Bulk Bagger (41F8, 41F81, and 41F82)	208 to 355	0.11	0.11
J-4 Starch Rail Loadout	183 to	0.17	0.17

Facility	Stack	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Collector (16F100)	177		
33 Bldg. Starch Bulk Truck Loadout (41F6)	189	0.04	0.04

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41G200, 41V10, 41V11, 41G201, 41F13, 30D1, and 30G1 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6.

(d) In order to render the requirements of 326 IAC 2-2 not applicable to Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 17Z38, 17V04, 17F02, 17V05, 17F15, and 17V06 shall not exceed the emissions limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
House Dust Collector (17F10) for Bag Packer #1 (17Z38), Packer #1 Reject Bag Dump (17V04)	177	1.24, total	1.24, total
Bag Packer #2 House Dust Collector (17F02), Packer #2 Reject Bag Dump (17V05)	177	1.1, total	1.07, total
House Dust Collection System for Bag Packer #4 (17F15), Packer #4 Reject Bag/Tote Dump (17V06)	333	2.2, total	1.07, total

Compliance with the above limits, combined with the limited PM emissions from emission units 17F02 and 17V05, shall render the requirements of 326 IAC 2-2 not applicable to emission units 17Z38, 17V04, 17F02, 17V05, 17F15, and 17V06.

(e) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 17F01, 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F78, 20F79, 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, 41F6, 17F10, 17Z38, 17V04, 17F02, 17V05, 17F15, 17V06 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The PSD avoidance limits for PM in Conditions D.8.2(a), D.8.2(c), and D.8.2(d) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process

weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.8.3 Prevention of Significant Deterioration (PSD) Minor Limit PM, PM_{10}, $PM_{2.5}$ [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014/2015 modification, the applicant shall comply with the following:

(a) The combined PM emissions from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630 shall not exceed 0.21 lb/hr.

(b) The combined PM_{10} emissions from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630 shall not exceed 0.21 lb/hr.

(c) The combined $PM_{2.5}$ emissions from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630 shall not exceed 0.115 lb/hr.

(d) The combined PM emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, controlled by baghouse 56F602, shall not exceed 0.54 lb/hr.

(e) The combined PM_{10} emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, controlled by baghouse 56F602, shall not exceed 0.54 lb/hr.

(f) The combined $PM_{2.5}$ emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, controlled by baghouse 56F602, shall not exceed 0.294 lb/hr.

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.4.1, D.5.2, D.7.3 and D.9.2, shall limit the net emissions increase from the 2014/2015 modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NOx, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014/2015 modification.

D.8.4 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 17V6, 16F5, 17F27, 17Z03, 20F1, 20F50, 20F61, 56F601, 56V600, 56Z600, and 56C630 shall be limited as follows:

(a) The particulate emission rate from baghouse 17F6 shall not exceed 0.12 lb/hr.

(b) The particulate emission rates from baghouses 16F5 and 17F27 shall not exceed 0.13 lb/hr, combined.

(c) The particulate emission rates from baghouse 20F61 shall not exceed 0.17 lb/hr.

(d) The particulate emission rates from baghouses 17F03 and 17F04 shall not exceed 0.20 lb/hr, combined. Note this particulate emission rate limit is more restrictive than the limit provided under Condition D.8.2(b) and represents the PTE of the emission unit after control.

(e) The particulate emission rates from baghouses 20F1 and 20F50 shall not exceed 0.15 lb/hr, each. Note this particulate emission rate limit is more restrictive than the limit provided under Condition D.8.2(a) and represents the PTE of the emission unit after control.

(f) The particulate emissions rate from baghouse 56F601 shall not exceed 0.21 lb/hr.

(g) The particulate emissions rate from baghouse 56F602 shall not exceed 0.54 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.8.5 Particulate Control

(a) In order to comply with Conditions D.8.1, D.8.2, and D.8.4, baghouses 17F6, 17F58, 16F5, 17F27, 17F10, 17F01, 17F02, 41F18, 41F7, 41F181, 41F182, 41F183, 41F186, 41F44, 17F03, 17F04, 17F15, 16F25, 17F14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F61, 20F60, 20F78, 20F79, 16F100, and 41F6 for particulate control shall be in operation and control particulate emissions from emission units 17V6, 17U58, 17U59, 16F5, 17F27, 17Z38, 17V04, 17Z01, 17F02, 17V05, 41F18, 41Z5, 41F7, 41F181, 41Z3, 41F182, 41Z1, 41F183, 41Z2, 41F186, 41F44, 41Z6, 17Z03, 17F15, 17V06, 16F25, 16J44, 17F14, 17Z14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F61, 20F60, 20F78, 20F79, 16F100, and 41F6 at all times those emission units are in operation.

(b) In order to comply with Condition D.8.2(b), only one of the baghouses 17F03 and 17F04 for particulate control shall be in operation and control particulate emissions from emission unit 17Z03 at all times emission unit 17Z03 is in operation.

(c) In order to comply with Condition D.8.2(c), only one of the Product Receivers for Bulk Bagger #3 (41F8, 41F81, and 41F82) shall be in operation at any one time.

(d) In order to comply with Condition D.8.3, baghouses 56F601 and 56F602 for particulate control shall be in operation and control particulate emissions from emission units 56F601, 56V600, 56Z600, 56C630, 56V630, 52V245, 52Z245, 56C604, Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6 and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator at all times those emission units are in operation.

D.8.6 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.8.7 Testing Requirements [326 IAC 2-7-5(1)]

(a) In order to demonstrate compliance with Condition D.8.1(b), the Permittee shall perform PM and PM_{10} testing of emission unit 41F186 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} includes filterable and condensable PM.

(b) In order to demonstrate compliance with Conditions D.8.3(a), 8.3(b), and 8.3(c), the Permittee shall perform PM, PM10, and PM2.5 testing on the product receiver bagfilter controlling these emission units utilizing methods approved by the commissioner not later than 180 days after the startup of the Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(c) Not later than 180 days after the startup of the bag packer #6 system, in order to demonstrate compliance with Condition D.8.3(d), D.8.3(e), and D.8.3(f), the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing on the Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, reprocess Bag Dump, identified as 56V630, and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5 tote packing system with head hopper, identified as 52V245 and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ includes filterable and condensable PM.

(d) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.8.8 Visible Emissions Notations

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the stack 177 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stacks' 102, 189, 254, 332, 333, 334, 355, 361, 380, and 404 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.8.9 Baghouse Parametric Monitoring

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouse 17F10 used in conjunction with emission units 17Z38 and 17V04 at least once per day when the respective emission units are in operation.

(b) The Permittee shall record the pressure drop continuously across baghouse 56F602 used in conjunction with emission units 56 Bldg Conv., 56V630, 52 Bldg Conv., 52V245, 52Z245, and 56C604 when the respective emission units are in operation.

(c) When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the normal range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.8.10 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.8.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.8.8, the Permittee shall maintain a daily record of visible emission notations of stacks 102, 177, 189, 254, 332, 333, 334, 355, 361, 380, and 404 controlling the Starch Packaging and Loadout Operation exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.8.9, the Permittee shall maintain a daily record of the pressure drop across baghouse 17F10 and 56F602 controlling the Starch Packaging and Loadout Operation exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.9 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(i) Utility Area, consisting of:

(1) Three (3) natural gas-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) NG-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004 and approved in 2014 for modification, with a heat input capacity of 231 MMBtu/hr, equipped with four (4) low-NO_x burners, and exhausting to stack 202.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.9.1 Prevention of Significant Deterioration: Best Available Control Technology [326 IAC 2-2-3]

Pursuant to PSD (79) 1557, issued June 21, 1984, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004:

(a) The sulfur dioxide (SO_2) emissions from boiler 31B1 shall not exceed 1.2 pounds per MMBtu heat input and 1,215 tons per 12 month consecutive period.

(b) The nitrogen oxides (NO_x) emissions from boiler 31B1 shall not exceed 0.7 pounds per MMBtu and 782 tons per 12 month consecutive period.

(c) Only one of the identical gas-fired boilers (11B1, 11B2, or 11B3) will be operated when -31B1 is operating. The only exception is the period of time required to replace the operation of boiler 31B1 with the operation of the two remaining standby gas boilers. In no case will this period of time exceed eight (8) hours.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-2 (PSD) for Boilers 11B1, 11B2, 11B3, and 31B1.

D.9.2 Prevention of Significant Deterioration (PSD) Minor Limit NOX, CO [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014/2015 modification, the Permittee shall comply with the following:

(a) The NOx emissions form NG-fired boiler, identified as 31B1, shall not exceed 0.1 lb/MMBtu.

(b) The CO emissions form NG-fired boiler, identified as 31B1, shall not exceed 0.07 lb/MMBtu.

Compliance with these limits, in combination with the limits in Conditions D.4.1, D.5.2, D.7.3, and D.8.3, shall limit the net emissions increase from the 2014/2015 modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NO_X, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014/2015 modification.

D.9.3 Particulate Matter (Sources of Indirect Heating) [326 IAC 6-2-3(d)]

Pursuant to 326 IAC 6-2-3(d) (Particulate Emission Limitation For Sources of Indirect Heating), the particulate matter emissions from boilers 11B1, 11B2, and 11B3, constructed in 1966, shall not exceed 0.8 pounds per MMBtu heat input, each.

D.9.4 Particulate Matter (Sources of Indirect Heating) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitation For Sources of Indirect Heating), the particulate matter emissions from boiler 31B1, constructed in 1985, modified in 2004 and approved in 2014 for modification, shall not exceed 0.20 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26}$$

Where:
Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used (Q = 666 MMBtu/hr).

Compliance Determination Requirements

D.9.5 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.9.2(a), not later than 180 days after the startup of the NG-fired boiler, identified as 31B1, the Permittee shall perform NOx testing, utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) In order to demonstrate compliance with Condition D.9.2(b), not later than 180 days after the startup of the NG-fired boiler, identified as 31B1, the Permittee shall perform CO testing, utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

SECTION D.10 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(j) One (1) Wastewater Treatment Anaerobic Digester, identified as 34V10, constructed in 1985. Biogas emissions can be:

(1) Controlled by the use of an alkaline scrubber, identified as 34V11, for controlling H_2S emissions; and

(A) Used as fuel in fiber flash dryer furnace 21B501; and/or

(B) Used as fuel in gluten flash dryer 48D101; and/or

(C) Combusted in one (1) main flare (21Z1), exhausting to stack 271, if the biogas produced exceeds these emissions units' capacity;

or

(2) Combusted in one (1) emergency flare (34Z1), exhausting to stack 272.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.10.1 Prevention of Significant Deterioration [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3, the SO_2 BACT for emission unit 34V10 shall be the use of alkaline scrubber 34V11; and

(a) The scrubber shall have a minimum H_2S control efficiency of 90%, and shall not exceed 9 lbs/hr SO_2 (equivalent to 4.78 lbs/hr of H_2S) in the scrubber outlet, when the inlet H_2S concentration to the scrubber is more than 1.1% by volume.

(b) The scrubber shall have an outlet H_2S concentration of less than 0.11% by volume, and shall not exceed 9 lbs/hr SO_2 (equivalent to 4.78 lbs/hr H_2S) in the scrubber outlet if the inlet concentration of H_2S is 1.1% by volume or less.

(c) To determine compliance with Condition D.10.1(a) and (b), the hydrogen sulfide content of the untreated biogas, the hydrogen sulfide content of the biogas treated by the biogas scrubber (34V11), the temperature of the biogas at the time of testing, and the total amount of biogas treated by the scrubber (34V11) shall be measured on a daily basis and used to calculate an average hourly sulfur dioxide emission rate and scrubber removal efficiency. If the biogas is directed to the emergency flare (34Z1), the hydrogen sulfide content of the untreated biogas, the temperature of the untreated biogas at the time of testing, and the total amount of untreated biogas burned by the emergency flare (34Z1) shall be measured on a daily basis and used to calculate a daily sulfur dioxide emission rate.

(d) The Permittee shall notify the IDEM, OAQ within two working days of any period if any H_2S is emitted directly to the atmosphere without being burned.

Compliance Determination Requirements

D.10.2 Hydrogen Sulfide (H2S)

In order to comply with Condition D.10.1:

(a) Scrubber 34V11 for H_2S control shall be in operation and control emissions from emission unit 34V10 at all times when emission unit 34V10 is producing biogas and the biogas is used as fuel in fiber flash dryer furnace 21B501 and gluten flash dryer 48D101.

(b) Main flare 21Z1 for H_2S control shall be in operation and control emissions from scrubber 34V11 at all times when biogas is routed to scrubber 34V11 and is not used as fuel in fiber flash dryer furnace 21B501 and/or gluten flash dryer 48D101.

(c) Emergency flare 34Z1 for H_2S control shall be in operation and combust the biogas at all times when biogas is vented to it, and:

(1) The amount of biogas produced by emission unit 34V10 exceeds the capacities of fiber flash dryer furnace 21B501, gluten flash dryer 48D101, and main flare 21Z1, or

(2) Inspection or maintenance of scrubber 34V11 or blowers occurs that requires biogas from emission unit 34V10 be isolated to allow that maintenance to be performed safely.

D.10.3 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.10.1, the Permittee shall perform H_2S testing on the inlet and outlet of scrubber 34V11 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. All hydrogen sulfide measured will be assumed to have been converted to sulfur dioxide in flares 21Z1 and 34Z1, fiber flash dryer furnace 21B501, and gluten flash dryer 48D101.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.10.4 Flare Pilot Flame

The presence of a flare pilot flame (for flares 21Z1 and 34Z1) shall be monitored using a thermocouple, or any other equivalent device, to detect the presence of a flame.

D.10.5 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the pH across scrubber 34V11 at least once per day when digester 34V10 is in operation.

(1) When, for any one reading, the pH across the scrubber is outside ~~of~~ the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 9 and 11.5 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pressure reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this

permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the recirculation rate from scrubber 34V11 continuously when emission unit 34V10 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 70 gallons per minute. If the flow rate falls below 70 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.1~~0~~.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the flow rate and pH shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.10.6 Scrubber Failure Detection

In the event that scrubber failure for emission unit 34V10 has been observed:

The biogas shall be routed to the emergency flare (34Z1) immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.10.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.11.1, the Permittee shall maintain:

(1) A log of the daily H_2S content before and after scrubber 34V11, temperature, and the total amount of the biogas burned in main flare 21Z1, fiber flash dryer furnace 21B501, gluten flash dryer 48D101, and emergency flare 34Z1.

(2) Records of all calculations used to determine the SO_2 emissions from the combustion of biogas in main flare 21Z1, fiber flash dryer furnace 21B501, gluten flash dryer 48D101, and emergency flare 34Z1.

(b) To document the compliance status with Condition D.10.5, the Permittee shall maintain a daily record of the pH and scrubber recirculation rate from scrubber 34V11 controlling the Wastewater Treatment Anaerobic Digester exhaust. The Permittee shall include in its

daily record when a pH or scrubber recirculation rate reading is not taken and the reason for the lack of a pH or scrubber recirculation rate reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.11 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities

(e) Gasoline fuel transfer dispensing operations handling less than or equal to 1,300 gallons per day and filling storage tanks having a capacity equal to or less than 10,500 gallons:

One (1) storage tank, identified as Tank #3, for storage of gasoline, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons. [326 IAC 8-4-6] [326 IAC 8-4-9]

(j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2]

(l) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(n) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables. [326 IAC 6-3-2]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.11.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the brazing equipment, cutting torches, soldering equipment, welding equipment, structural steel and bridge fabrication activities, shall not exceed a pound per hour emission rate established as E in the following formulas:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

D.11.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

(a) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating Requirements), the Permittee shall:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
(B) A water cover when solvent used is insoluble in, and heavier than, water.
(C) A refrigerated chiller.
(D) Carbon adsorption.
(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:
(A) must be a solid, fluid stream; and
(B) shall be applied at a pressure that does not cause excessive splashing.

D.11.3 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate a cold cleaning degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

D.11.4 Avoidance Limit for VOC [326 IAC 8-4-6] [326 IAC 8-4-9]

In order to render the requirements of 326 IAC 8-4-6 and 326 IAC 8-4-9 not applicable to the storage tank identified as Tank #3, the monthly gasoline throughput from Tank #3 shall not exceed 10,000 gallons per month. Compliance with the above limit will render the requirements of 326 IAC 8-4-6 and 326 IAC 8-4-9 not applicable to Tank #3.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.11.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.11.4, the Permittee shall maintain monthly records of gasoline throughput from the storage tank identified as Tank #3.

(b) To document the compliance status with Condition D.11.3, on and after January 1, 2015, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

(1) The name and address of the solvent supplier.

(2) The date of purchase.

(3) The type of solvent purchased.

(4) The total volume of the solvent purchased.

(5) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION E.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]:

(c) Feed/Meal/Germ Production Operations, consisting of:

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, constructed in 2007, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for the fiber flash dryer furnace 21B501 except as otherwise specified in 40 CFR Part 60, Subpart Dc.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc]

The Permittee which engages in steam generation shall comply with the following provisions of 40 CFR Part 60, Subpart Dc, which are incorporated by reference as 326 IAC 12 (included as Attachment A of this permit):

(a) 40 CFR 60.40c(a), (b), (c), (d);
(b) 40 CFR 60.41c; and
(c) 40 CFR 60.48c(a), (g), (i).

SECTION E.2 RESERVED

SECTION E.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]:

Insignificant Activities

(jj) Propylene oxide storage tank and associated distribution system, including

(1) One (1) Propylene Oxide (PO) Tank, identified as 42V1, constructed in 1986, with a capacity of 30,000 gallons.

(2) Distribution system that includes railcar transfer rack, all valves, pumps, and sampling connections associated with the PO distribution system.

Under 40 CFR 63, Subpart EEEE, this is considered an existing affected source.
[40 CFR 63, Subpart EEEE]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.3.1 General Provisions Relating to NESHAP EEEE [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.2330, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in 40 CFR 63, Subpart EEEE in accordance with Table 12 in 40 CFR Part 63, Subpart EEEE.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.3.2 National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) [40 CFR Part 63, Subpart EEEE] [326 IAC 20-83]

The Permittee which engages in the distribution of non-gasoline organic liquids shall comply with the following provisions of 40 CFR Part 63, Subpart EEEE (included as Attachment C of this permit):

(a) 40 CFR 63.2330;
(b) 40 CFR 63.2334(a);
(c) 40 CFR 63.2338(a), (b), (c), (f);
(d) 40 CFR 63.2342(b)(1), (d);
(e) 40 CFR 63.2343(b), (c), (d);
(f) 40 CFR 63.2350;
(g) 40 CFR 63.2382(a), (b)(1);

(h) 40 CFR 63.2386(a), (b), (c)(1), (c)(2), (c)(3), (c)(4), (c)(10)(i), (d)(4);
(i) 40 CFR 63.2390(a), (d);
(j) 40 CFR 63.2394;
(k) 40 CFR 63.2398;
(l) 40 CFR 63.2402;
(m) 40 CFR 63.2406;
(n) Table 1 to Subpart EEEE of Part 63; and
(o) Table 11 to Subpart EEEE of Part 63.

SECTION E.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]:

Insignificant Activities

(cc) Emergency generators as follows:

(1) One (1) emergency diesel generator, installed in 1998, identified as Wastewater Treatment Generator, with a maximum capacity of 317 hp. Under 40 CFR 63, Subpart ZZZZ, this is considered an existing affected source. [40 CFR 63, Subpart ZZZZ]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.4.1 General Provisions Relating to NESHAP ZZZZ [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.6580, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in 40 CFR 63, Subpart ZZZZ in accordance with Table 8 in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.4.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee which engages in the use of a reciprocating internal combustion engine shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit):

(a) 40 CFR 63.6580;
(b) 40 CFR 63.6585(a), (b);
(c) 40 CFR 63.6590(a)(1)(ii);
(d) 40 CFR 63.6595(a)(1), (c);
(e) 40 CFR 63.6602;
(f) 40 CFR 63.6605;
(g) 40 CFR 63.6612;
(h) 40 CFR 63.6620;
(i) 40 CFR 63.6625(e)(2), (f), (h), (i), (j);
(j) 40 CFR 63.6635;
(k) 40 CFR 63.6640(a), (b), (f)(1);
(l) 40 CFR 63.6645(a)(5);

(m) 40 CFR 63.6650(a), (b), (c)(1) through (c)(5), (d), (f);
(n) 40 CFR 63.6655(a), (d), (e)(2), (f)(1);
(o) 40 CFR 63.6660;
(p) 40 CFR 63.6665;
(q) 40 CFR 63.6670;
(r) 40 CFR 63.6675;
(s) Table 2c to 40 CFR 63 Subpart ZZZZ;
(t) Table 4 to 40 CFR 63 Subpart ZZZZ; and
(u) Table 6 to 40 CFR 63 Subpart ZZZZ.

SECTION E.5 NESHAP

Emissions Unit Description:

(1) Three (3) natural gas-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) NG-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004 and approved in 2014 for modification, with a heat input capacity of 231 MMBtu/hr, equipped with four (4) low-NO_x burners, and exhausting to stack 202.

(3) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, constructed in 2007, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E. 5.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.7565, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, for the above listed emissions units, as specified in 40 CFR Part 63, Subpart DDDDD, in accordance with the schedule in 40 CFR Part 63, Subpart DDDDD.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.5.2 Industrial, Commercial and Institutional Boilers and Process Heaters NESHAP [40 CFR Part 63, Subpart DDDDD] [326 IAC 20-95]

Pursuant to 40 CFR Part 63, Subpart DDDDD, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart DDDDD, which are incorporated by reference as 326 IAC 20-95 (included as Attachment E to this permit), for the above listed emissions units, as specified as follows:

(1) 40 CFR 63.7485
(2) 40 CFR 63.7500(a)(1)
(3) 40 CFR 63.7505(a)

(4) 40 CFR 63.7510(a)(2)(ii) & (e)
(5) 40 CFR 63.7515(d)
(6) 40 CFR 63.7521(f)(g)
(7) 40 CFR 63.7530(g)
(8) 40 CFR 63.7540(a)(10)
(9) 40 CFR 63.7540(a)(19)(vii)(c)
(10) 40 CFR 63.7545(b)(c)(e)(h)
(11) 40 CFR 63.7555(g)

40 CFR 63.7575

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, Indiana 47904
Part 70 Permit No.: T157-27029-00003

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, Indiana 47904
Part 70 Permit No.: T157-27029-00003

This form consists of 2 pages **Page 1 of 2**

□ This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, IN 47904
Part 70 Permit No.: T157-27029-00003
Facility: Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 46D200, 19D301, 19D302, and 19D303

Parameter: Propylene oxide (PO) input for propylated starch reactions that do not undergo the acid-kill step

Limit: Fifteen hundred (1,500) tons propylene oxide per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	VOC Usage This Month	VOC Usage Previous 11 Months	VOC Usage 12 Month Total

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, IN 47904
Part 70 Permit No.: T157-27029-00003
Facility: #4 Starch Flash Dryer
Parameter: Propylated Starch Production
Limit: Two hundred and forty (240) million pounds of propylated starch per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Propylated Starch Produced This Month	Propylated Starch Produced Previous 11 Months	Propylated Starch Produced 12 Month Total

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, IN 47904
Part 70 Permit No.: T157-27029-00003
Facility: Propylated Starch Reactors (45V298 and 45V299)
Parameter: Combined throughput
Limit: Sixty (60) million pounds of propylated starch per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Propylated Starch throughput This Month	Propylated Starch throughput Previous 11 Months	Propylated Starch Throughput 12 Month Total

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, IN 47904
Part 70 Permit No.: T157-27029-00003
Facility: Propylated Starch Reactors (45V298 and 45V299)
Parameter: Propylene oxide used in propylated starch reaction that do not undergo the 'acid kill step'
Limit: Four (4) million pounds of propylene oxide per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Propylene oxide used This Month	Propylene oxide used Previous 11 Months	Propylene oxide used 12 Month Total

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, Indiana 47904
Part 70 Permit No.: T157-27029-00003

Months: _____ to _____ Year: _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C – General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification and Significant Permit Modification

Source Description and Location

Source Name:	Tate & Lyle Ingredients Americas LLC
Source Location:	2245 North Sagamore Parkway, Lafayette, IN 47904
County:	Tippecanoe
SIC Code:	2046 (Wet Corn Milling)
Operation Permit No.:	T 157-27029-00003
Operation Permit Issuance Date:	July 3, 2012
Significant Source Modification No.:	157-35854-00003
Significant Permit Modification No.:	157-36009-00003
Permit Reviewer:	Julie Mendez, Ph.D./Heath Hartley

Existing Approvals

The source was issued Part 70 Operating Permit No. 157-27029-00003 on July 3, 2012. The source has since received the following approvals:

(a) Administrative Amendment No. 157-32390-00003, issued on February 14, 2013;
(b) Significant Source Modification No. 157-34094-00003, issued on September 26, 2014;
(c) Significant Permit Modification No. 157-34105-00003, issued October 16, 2014.

County Attainment Status

The source is located in Tippecanoe County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.[1]
$PM_{2.5}$	Unclassifiable or attainment effective April 5, 2005, for the annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Tippecanoe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Tippecanoe County has been classified as attainment for $PM_{2.5}$. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Tippecanoe County has been classified as attainment or unclassifiable in Indiana for SO_2, CO, PM_{10}, NO_2, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The source includes a fiber flash dryer furnace, and package boilers with a total heat input rating of greater than 250 million British thermal units per hour (MMBtu/hr) which support the wet corn milling plant.

(1) Since this source is classified as a wet corn milling plant, it is not considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2 or 326 IAC 2-7. Therefore, fugitive emissions from the wet corn milling plant are not counted toward the determination of PSD and Part 70 Permit applicability.

(2) The fugitive emissions from fiber flash dryer furnace 21B501 are not counted toward PSD applicability because the applicable NSPS, Subpart Dc was in effect after August 7, 1980.

(3) The package boilers with a total heat input rating of greater than 250 MMBtu/hr are considered one of the 28 listed source categories, based on the EPA guidance for "nesting activities". Therefore, any fugitive emissions from these boilers are counted toward PSD applicability.

Source Status - Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	**Emissions** (ton/yr)
PM	Greater than 250
PM_{10}	Greater than 250
$PM_{2.5}$	Greater than 100, Less than 250
SO_2	Greater than 250
NO_X	Greater than 250
VOC	Greater than 250
CO	Greater than 250
Single HAP	Greater than 10
Total HAPs	Greater than 25

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a PSD regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) These emissions are based upon the TSD for Significant Source Modification No. 157-34094-00003, issued on September 26, 2014.

(c) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Modification

Tate & Lyle Ingredients Americas LLC received Significant Source Modification No. 157-34094-00003, issued on September 26, 2014, and Significant Permit Modification No. 157-34105-00003, issued on October 16, 2014, relating to the implementation of several projects including a wet milling yield improvement project, the construction of several new starch drying systems, and the permanent conversion of the existing coal (CoGen) boiler to natural gas firing.

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Tate & Lyle Ingredients Americas LLC on May 22, 2015, relating to design changes to the starch drying expansion, as follows:

Starch Modification Operations

(a) The Flash 4 Larox Filter Feed Tank, identified as 54V403, has been designed to vent inside the dryer building via stack 420.

(b) Air Release Tank 54V422, as well as stack 422, will not be constructed. Air Release Tank 54V421 will serve both Flash 4 Larox Filters, identified as 54F421 and 54F422.

Starch Drying and Handling Operations

(c) The fan for the Pneumatic Product Transfer System, identified as 40F7, serving Starch Flash Dryer #1, will be replaced by a blower and will be vented to the inlet of the Starch Flash Dryer #1 Scrubber (40F3).

(d) Unit identification numbers for several units in the #2 Starch Agglomerator system have been revised.

(e) Several design changes have been made to the #2 Starch Agglomerator tote and bag packing systems.

(1) A new aspiration fan has been added to provide aspiration of the #7 bag packer, identified as 56Z700 (formerly 52Z247). The fan discharges to the inlet of cyclones 52F211-52F214 (formerly 52F220-52F223), exhausting to stack 361.

(2) The reprocess bag dump, identified as 52V225, and reprocess bag dump transfer system, identified as 52C224, will not be constructed.

(3) The #5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, will be controlled by the packer #6 House Dust Collector, identified as 56F602, exhausting via vent 381 to stack 380.

(4) As a result of the above changes, the #2 Starch Agglomerator packer dust collector, identified as 52F225, is no longer needed and will not be constructed.

(5) The design of the bin vent filters (52F250 and 52F251), controlling particulate emissions from the two (2) agglomerator bins, identified as 52V250 and 52V251, has been revised to require an airflow rate of 2,500 cfm rather than 2,000 cfm.

(f) The correct heat input capacity of the #4 Starch Flash Dryer, identified as 54D450, is 40 MMBtu/hr. This dryer was originally permitted with a capacity of 32 MMBtu/hr.

(g) The design of the baghouses (54F440, 54F441, and 54F4CC) and bin vents (07F71, 07F72, and 07F73) controlling particulate emissions from the six (6) #4 Starch Flash Dryer Product Storage Bins, identified as 54V440, 54V441, 54VCC, 07V48, 07V49, and 07V50, has been revised to require an airflow rate of 3,000 acfm rather than 5,500 acfm.

Starch Packaging and Loadout Operations

(h) The Bag Packer #6 System emissions will not exhaust to stack 361. The exhaust from baghouse 56F601 will instead be routed directly to stack 380.

(i) The design of baghouse 56F601, controlling particulate emissions from Packer #6 Product Receiver, identified as 56F601, has been revised to require an airflow rate of 5,000 acfm rather than 3,000 acfm.

(j) A fourth bag packing station has been added to Bag Packer #6, identified as 56Z600.

(k) A small transfer system (blower 56C604) has been added to transfer oversize starch screenings from the product screening system (56Y601) to the Packer #6 House Dust Collector (56F602).

Utility Area

(l) As a result of the permanent cessation of coal firing in October 2014, the source is requesting deletion of certain requirements applicable only to coal firing.

The following is a list of the proposed emission units and pollution control devices:

Starch Drying and Handling Operations

(a) One (1) dryer equipped with direct-fired natural gas low-NOx burner, with heat input capacity of 40 MMBtu/hr.

Starch Packaging and Loadout Operations

(b) One (1) Packer #6 Screenings Transfer System, identified as 56C604, with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack 380.

The following units will not be constructed and have been removed from the permit:

Starch Modification Operations

(a) One (1) Air Release Tank, identified as 54V422, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 422.

Starch Drying and Handling Operations

(a) One (1) reprocess bag dump, identified as 52V225, aspirated to the agglomerator #2 packer dust collector, identified as 52F225, and exhausting via vent 362 to stack 361. Reprocessed product is also transferred via a blower, identified as 52C224 to the packer dust collector, identified as 52F225, from the bag dump.

The following changes are also being requested. These changes are not related to the previously issued Significant Permit Modification No. 157-34105-00003, issued on October 16, 2014:

(a) Significant Source Modification No. 157-34094-00003, issued on September 26, 2014, authorized the source to construct several new units within the following operations: Wet Milling, Syrup Refining, Starch Modification, Starch Drying and Handling, and Starch Packaging and Loadout. The source now proposes to construct new units within these operations and requests to modify emissions limitations associated with these operations. Therefore, the proposed modification is aggregated with Significant Source Modification No. 157-34094-00003.

(b) Updates to the permit to include adding existing units in the wet milling and feedhouse areas (A.2(b) and D.2 of the permit) that were not previously included in the permit.

These units were included as part of the BACT application for permit SSM 157-18832-00003, issued September 13, 2005, however were not added specifically identified in the permit at that time. Since they were part of the BACT application in 2005, they do not require a PSD review now, and these units can be added to the permit. See the 'Proposed Changes' section of this TSD for the specific existing units being added to sections A.2 and D.2 of the permit.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
107	Product Bin #3	44	0.83	3,000	70
108	Product Bin #2	44	0.83	3,000	70
109	Product Bin #1	44	0.83	3,000	70
361	Agglomerator #2 Agglomerator #2 External Fluid Bed Agglomerator #2 Fines Recycle #7 Bag Packer	160	5.83	90,555	239
380	Packer #6 Product Receiver; Packer Head Hopper; Bag Packer; and Reprocess Bag Dump Transfer Line	135	2.5	21,000	80
381	Packer #6 Ultrasonic Sealers and Bag Conveying Systems, Reprocess Bag Dump, and #2 Starch Agglomerator Bag Packer Conveying Equipment, #5 Tote Packing System Head Hopper and Packer, Screenings Transfer System	NA	NA	16,000	80
385	Product Bin #440	83	0.83	3,000	70
386	Product Bin #441	83	0.83	3,000	70

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
387	Product Bin #4CC	83	0.83	3,000	70
401	Product Bin #250	83	0.83	2,500	110
402	Product Bin #251	83	0.83	2,500	110
421	Flash 4 Larox Filters and Air Release Tank	TBD	TBD	TBD	TBD

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70 Modification to an Existing Source

Significant Source Modification No. 157-34094-00003, issued on September 26, 2014, authorized the source to construct several new units within the following operations: Wet Milling, Syrup Refining, Starch Modification, Starch Drying and Handling, and Starch Packaging and Loadout. The source now proposes to construct new units within these operations and requests to modify emissions limitations associated with these operations. Therefore, the proposed modification is aggregated with Significant Source Modification No. 157-34094-00003 for permit level determination.

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

The following tables are used to determine the appropriate permit level under 326 IAC 2-7-10.5. These tables reflect the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. If the control equipment has been determined to be integral, the table reflects the PTE after consideration of the integral control device.

Increase in PTE Before Controls of Starch Flash Dryer #4	
Pollutant	**Potential To Emit** (ton/yr)
PM	19.62
PM_{10}	28.32
$PM_{2.5}$	21.78
SO_2	0.10
VOC	8.14
CO	14.02
NO_X	7.01
Single HAPs	<10
Total HAPs	<25

This source modification is subject to 326 IAC 2-7-10.5(g)(4) because it is a modification with a potential to emit greater than or equal to twenty-five (25) tons per year of PM_{10}. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because the modification requires a case-by-case determination of an emission limitation.

Permit Level Determination – PSD

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Project Emissions (ton/yr)							
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$[a]**	**SO_2**	**NO_X**	**VOC**	**CO**	**H_2SO_4**
New Units[b]	32.74	46.17	33.77	10.69	10.51	29.75	21.02	0.72
Existing Units (ATPA)[c]	2.92	3.45	2.61	3.09	4.27	9.97	66.88	0.02
Total for Modification	35.67	49.62	36.38	13.78	14.78	39.72	87.90	0.74
Contemporaneous Increase	0.19	0.19	0.19	-	-	-	-	-
Contemporaneous Decrease	-33.63	-75.67	-60.23	-	-	-	-	-
Total for Modification after Netting	2.23	0	0	13.78	14.78	39.72	87.90	0.74
Significant Thresholds	25	15	10	40	40	40	100	7

[a]$PM_{2.5}$ listed is direct $PM_{2.5}$.
[b]"New Units" includes emission units proposed under this modification (SSM 157-35854-00003) and emission units permitted under SSM 157-34094-00003, issued on September 26, 2014, with limits revised under this modification. The two modifications are aggregated for PSD applicability.
[c]Emissions increase of existing units was determined under SSM 157-34094-00003, issued on September 26, 2014.

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

This modification to an existing major PSD stationary source is not major because the emissions increase of each PSD regulated pollutant are less than the PSD significant thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source and the unrestricted potential to emit of this aggregated modification is greater than the significant thresholds, this source has elected to limit the potential to emit of this modification as follows:

(a) Wet Milling Operations

(1) The SO_2 emissions rate from the Grit Starch Separator Screens, identified as

15J39 and 15J40, shall not exceed 0.01 pounds per hour.

(2) The VOC emissions rate from the Grit Starch Separator Screens, identified as 15J39 and 15J40, shall not exceed 0.07 pounds per hour.

(3) The combined SO_2 emissions rate from the Gluten Vacuum Filter, identified as 21F5, and the Gluten Filter Vacuum Pump, identified as 21C105, shall not exceed 0.02 pounds per hour.

(4) The combined VOC emissions rate from the Gluten Vacuum Filter, identified as 21F5, and the Gluten Filter Vacuum Pump, identified as 21C105, shall not exceed 1.20 pounds per hour.

(b) Syrup Refining Operations

(1) The SO_2 emissions from the Jet Conversion Flash Chamber, identified as 18V513, shall not exceed 1.65 pounds per hour.

(2) The VOC emissions from the Jet Conversion Flash Chamber, identified as 18V513, shall not exceed 0.75 pounds per hour.

(3) The PM emissions from the Powdered Carbon Transfer system shall not exceed 0.004 pounds per hour.

(4) The total PM_{10} emissions from the Powdered Carbon Transfer system shall not exceed 0.004 pounds per hour.

(5) The total $PM_{2.5}$ emissions from the Powdered Carbon Transfer system shall not exceed 0.002 pounds per hour.

(c) Starch Modification Operations

(1) The combined throughput to the two Propylated Starch Reactors shall be limited to a total of 60 million pounds of propylated starch per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors.

(3) The amount of propylene oxide used in propylated starch reactions that do not undergo the 'acid kill step' shall be limited to 4.0 million pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(4) The amount of oxidized starch produced from reactor 18V274 shall be limited to forty-eight point seven million (48,700,000) pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(5) The VOC emission rate from reactor 18V274 shall not exceed 42.7 pounds VOC per 100,000 pounds of oxidized starch.

(d) Starch Drying and Handling Operations

(1) The VOC emissions from Starch Roll Dryer #304 (ID 19D304) and Starch Roll Dryer #305 (ID 19D305) shall not exceed 6 pounds per 100,000 pounds of propylated starch, each.

(2) The combined throughput to the Starch Roll Dryer #304 (ID 19D304) and Starch Roll Dryer #305 (ID 19D305) shall be limited to a total of 56 million pounds of starch per twelve (12) consecutive month period with compliance determined at

the end of each month.

(3) The combined PM emissions from #2 Starch Agglomerator, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202, Fines Recycle System, identified as 52C207, and Bag Packer #7, identified as 56Z700, shall not exceed 2.00 lb/hr.

(4) The combined PM10 emissions from #2 Starch Agglomerator, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202, Fines Recycle System, identified as 52C207, and Bag Packer #7, identified as 56Z700, shall not exceed 3.08 lb/hr.

(5) The combined PM2.5 emissions from #2 Starch Agglomerator, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202, Fines Recycle System, identified as 52C207, and Bag Packer #7, identified as 56Z700, shall not exceed 2.19 lb/hr.

(6) The NOx emissions from the low NOx burner shall not exceed 0.04 lb/MMBtu.

(7) The CO emissions from the low NOx burner shall not exceed 0.08 lb/MMBtu.

(8) The PM emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.10 lb/hr, each.

(9) The PM10 emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.10 lb/hr, each.

(10) The PM2.5 emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.054 lb/hr, each.

(11) Only one (1) of the two (2) product storage bins, identified as 52V250 and 52V251, shall be in operation at time.

(12) The VOC emissions from the #4 Starch Flash Dryer (54D450), including VOC emissions from the Flash 4 Slurry Hold Tank (54V401), Flash 4 Larox Filter Feed Tank (54V403), and Flash 4 Larox Filters (54F421, 54F422, and 54F4MM) and Flash 4 Air Release Tanks (54V421 and 54V4MM), shall not exceed 6 pounds per 100,000 pounds of propylated starch.

(13) The propylated starch production on #4 Starch Flash Dryer (54D450), shall be limited to a total of 240 million pounds of propylated starch per twelve (12) consecutive month period with compliance determined at the end of each month.

(14) The PM emissions from #4 Starch Flash Dryer, identified 54D450, shall not exceed 4.46 lb/hr.

(15) The PM10 emissions from #4 Starch Flash Dryer, identified 54D450, shall not exceed 6.4 lb/hr.

(16) The PM2.5 emissions from #4 Starch Flash Dryer, identified 54D450, shall not exceed 4.91 lb/hr.

(17) The NOx emissions from the low NOx burner shall not exceed 0.04 lb/MMBtu.

(18) The CO emissions from the low NOx burner shall not exceed 0.08 lb/MMBtu.

(19) The PM emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.02 lb/hr.

(20) The PM10 emissions from Starch Densifier Mill Surge Hopper, identified as

54V470, shall not exceed 0.02 lb/hr.

(21) The PM2.5 emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.01 lb/hr.

(22) The PM emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.13 lb/hr each.

(23) The PM10 emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.13 lb/hr each.

(24) The PM2.5 emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.07 lb/hr each.

(25) The PM emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed 0.13 lb/hr each.

(26) The PM10 emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed 0.13 lb/hr each.

(27) The PM2.5 emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed 0.07 lb/hr each.

(28) PM emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

(29) PM10 emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

(30) PM2.5 emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

(e) Starch Packaging and Loadout Operations

(1) The combined PM emissions from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, and Reprocess Bag Dump Transfer Line, identified as 56C630, shall not exceed 0.21 lb/hr.

(2) The combined PM_{10} emissions from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, and Reprocess Bag Dump Transfer Line, identified as 56C630, shall not exceed 0.21 lb/hr.

(3) The combined $PM_{2.5}$ emissions from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, and Reprocess Bag Dump Transfer Line, identified as 56C630, shall not exceed 0.115 lb/hr.

(4) The combined PM emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, controlled by baghouse 56F602, shall not exceed 0.54 lb/hr.

(5) The combined PM_{10} emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5

tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, controlled by baghouse 56F602, shall not exceed 0.54 lb/hr.

(6) The combined $PM_{2.5}$ emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, controlled by baghouse 56F602, shall not exceed 0.294 lb/hr.

(f) Utility Area

(1) The NOx emissions form NG-fired boiler, identified as 31B1, shall not exceed 0.1 lb/MMBtu.

(2) The CO emissions form NG-fired boiler, identified as 31B1, shall not exceed 0.07 lb/MMBtu.

Compliance with these limits shall limit the net emissions increase from the 2014/2015 modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NOx, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014/2015 modification.

The Permittee has provided information as part of the application for this approval that, based on Actual to Projected Actual test in 326 IAC 2-2-2, this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1. IDEM, OAQ has not reviewed this information and will not be making any determination in this regard as part of this approval. The applicant will be required to keep records and report in accordance with Source obligation in 326 IAC 2-2-8.

The potential to emit of this modification is greater than the PSD significant thresholds for PM, PM_{10}, and $PM_{2.5}$. Therefore, netting is triggered for these pollutants. During the contemporaneous period, emissions increases of the pollutants occurred due to the modification of nine (9) starch reactors (MSM 157-27720-00003, issued on May 8, 2009, and SSM 157-29634-00003, issued on November 10, 2010). Contemporaneous emissions decreases for PM, PM_{10}, and $PM_{2.5}$ occurred due to the conversion of boiler 31B1 and the shutdown of the special starch belt dryer system (SSM 157-34094-00003, issued on September 26, 2014). The total potential emissions of this modification after netting are less than the PSD significant thresholds for PM, PM_{10}, and $PM_{2.5}$.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

NSPS:

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

NESHAP:

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

CAM:

(c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

This modification does not involve any new or modified units that have a potential to emit before controls equal to or greater than a Part 70 major source threshold. Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the new or modified units as part of this modification.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)

(a) PSD applicability for this modification is discussed under the Permit Level Determination – PSD section.

(b) On February 28, 1986, the source was issued PC (79) 1599 for the construction of the following units: Starch Flash Dryer #1 (40D1), Pneumatic Product Transfer (40F7), Starch Storage Bin #8 (7V8), and Starch Storage Bin #9 (7V9).

The fan for the Pneumatic Product Transfer System, identified as 40F7, will be vented to the inlet of the Starch Flash Dryer #1 Scrubber (40F3). Stack 70 will be eliminated, and both Starch Flash Dryer #1 (40D1), Pneumatic Product Transfer (40F7) will exhaust to stack 69. Therefore, the source is requesting to modify the PSD minor limit for PM for units 40D1 and 40F7.

Pursuant to PC (79) 1599, issued February 28, 1986, and OP 79-10-90-0406, issued October 16, 1987, modified by SPM 157-36009-00003, the PM emissions from emission units 40D1, 40F7, 7V8, and 7V9 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack	PM Limit (lb/hr)
Starch Flash Dryer #1 (40D1)	69	1.4
Pneumatic Product Transfer (40F7)		
Starch Storage Bin #8 (7V8)	71	0.03
Starch Storage Bin #9 (7V9)	72	0.03

Compliance with the above limits will limit the potential to emit to less than twenty-five (25) tons per year of PM and render the requirements of 326 IAC 2-2 not applicable to emission units 40D1, 40F7, 7V8, and 7V9.

PM = 1.4 lb/hr + 0.03 lb/hr + 0.03 lb/hr = 1.46 lb/hr x 8760 hr/yr / 2000 lb/ton = 6.39 ton/yr

This is a Title I change.

(c) Boiler 31B1 was modified in 2014 to change fuel type from coal to natural gas. However, the installation of Boiler 31B1 under permitting action PSD (79) 1557 (issued June 21, 1984) involved a netting analysis. A review of the netting analysis is being done to show that by changing to natural gas, the net emissions increase of the boiler for the modification was less than significant emission levels of the 1984 modification.

Condition D.9.1 of the permit listed PSD BACT limits for Boiler 31B1 for PM, CO and VOC. These limits for PM, CO and VOC were actually PSD avoidance limits, and should have been listed separately from the SO2 and NOx BACT limits. After the change from using coal to natural gas, the unlimited PTE for PM, CO and VOC of 31B1 using natural gas show that the emissions increase from the 1984 modification is less than significant levels; therefore PSD avoidance limits are not necessary. See specific changes in the 'Proposed Changes' section of this TSD.

PSD Table for PSD (79) 1557 Modification to add boiler 31B1					
	Existing Boilers Tons/year	New Boiler Tons/year	Supplemental Boiler Tons/year	Net Emissions Increase Tons/year	Significant Emission Level Tons/year
Total Suspended Particulate Matter (TSP)	71	~~53~~ **1.9**	2.4	~~-15.6~~ **-66.7**	25
Sulfur Dioxide (SO2)	*see note below				
Carbon Monoxide (CO)	16	~~27~~ **70.8**	18	~~29~~ **72.8**	100
Volatile Organic Compounds (VOC)	3	~~3~~ **5.5**	1.4	~~1.4~~ **3.9**	40
Nitrogen Oxides (NOx)	*see note below				

*SO2 and NOx are already subject to BACT requirements; therefore, these pollutants were not reviewed for the change in fuel type.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of the units associated with the proposed modification will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-7-6(5) (Annual Compliance Cerification)
The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certification that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
This rule does not apply to the 40 MMBtu/hr dryer because it is a source of direct heating.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
(a) Starch Drying and Handling Operations

The particulate emission rates from emission units 52D201, 52Y202, 52C207, 56Z700, 54V440, 54V441, 54V4CC, 07V50, 07V49, 07V48, 52V250, and 52V251 shall be limited as follows:

(1) The combined PM emissions from Agglomerator #2, identified as 52D201, Mechanical Fluid Bed, identified as 52Y202 and Fines Recycle System, identified as 52C207, and Bag Packer #7, identified as 56Z700, shall not exceed 2.00 lb/hr.

(2) The PM emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed 0.13 lb/hr each.

(3) The PM emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, and 07V48 shall not exceed 0.13 lb/hr each.

(4) The PM emissions from product storage bins, identified 52V250 and 52V251, shall not exceed 0.10 lb/hr each.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities, for which confidential treatment has been requested. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

(b) Starch Packaging and Loadout Operations

The particulate emission rates from emission units 17V6, 16F5, 17F27, 17Z03, 20F1, 20F50, 20F61, 56F601, 56V600, 56Z600, and 56C630 shall be limited as follows:

(1) The particulate emissions rate from baghouse 56F601 shall not exceed 0.21 lb/hr.

(2) The particulate emissions rate from baghouse 56F602 shall not exceed 0.54 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities, for which confidential treatment has been requested. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)
All of the emission units that were approved for construction or modification in this permit have the potential emissions of VOC less than twenty-five (25) tons per year. Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The Compliance Determination Requirements applicable to this modification are as follows:

Summary of Testing Requirements					
Emission Unit	**Control Device**	**Timeframe for Testing**	**Pollutant**	**Frequency of Testing**	**Limit or Requirement**
Grit Starch Separator Screens 15J39 and 15J40	Scrubber 15F401	180 days after startup	SO_2 and VOC	Once every 5 years	0.01 lb SO_2/hr 0.07 lb VOC/hr (combined)
Gluten Vacuum Filter 21F5, Gluten Filter Vacuum Pump 21C105	Scrubber 15F401	180 days after startup	SO_2 and VOC	Once every 5 years	0.02 lb SO_2/hr 1.20 lb VOC/hr (combined)
Agglomerator #2, Mechanical Fluid Bed, Fines Recycle System, Bag Packer #7	Baghouse 52F202	180 days after startup	PM, PM10, and PM2.5	Once every 5 years	2.00 lb PM/hr 3.08 lb PM10/hr 2.19 lb PM2.5 lb/hr (combined)
Packer #6 Product Receiver, Packer #6 Head Hopper, Packer #6, Reprocess Bag Dump Transfer Line	Baghouse 56F601	180 days after startup	PM, PM10, and PM2.5	Once every 5 years	0.21 lb PM/hr 0.21 lb PM10/hr 0.115 lb PM2.5 lb/hr (combined)
Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, #5 Tote Packing System, and Packer #6 Screenings Transfer System	Baghouse 56F602	180 days after startup	PM, PM10, and PM2.5	Once every 5 years	0.54 lb PM/hr 0.54 lb PM10/hr 0.294 lb PM2.5 lb/hr (combined)

The compliance monitoring requirements applicable to this modification are as follows:

Control	**Parameter**	**Frequency**	**Range**	**Excursions and Exceedances**
Baghouses 56F601 and 56F602 (Stack 380)	Visible Emissions	Daily	Normal-Abnormal	Response Steps

These monitoring conditions are necessary because baghouses 56F601 and 56F602 for the Bag Packer #6 System must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) and to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014/2015 modification.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 157-27029-00003. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

(1) Emission unit descriptions in Sections A, D.5, D.7, and D.8 have been revised to incorporate the descriptive changes listed in the Description of Proposed Modification section above.

(2) #2 Starch Agglomerator, previously identified as 52D210, is now identified in the permit as 52D201.

(3) Four (4) product collection cyclones, previously identified as 52F220-52F214, are now identified in the permit as 52F211-52F214.

(4) The baghouse previously identified as 52F230 is now identified in the permit as 52F202.

(5) The mechanical fluid bed previously identified as 52Y211 is now identified in the permit as 52Y202.

(6) The fines recycle system previously identified as 52C221 is now identified in the permit as 52C207.

(7) The #7 bag packing system head hopper, previously identified as 52V247, is now identified in the permit as 52V214.

(8) The #7 bag packing system tote packer, previously identified as 52Z247, is now identified in the permit as 56Z700.

(9) Updates to wet milling SO2 aspiration system.

(10) The source has requested a revision to the PSD minor limits for SO2 and VOC for the Grit Starch Separator Screens, identified as 15J39 and 15J40, the Gluten Vacuum Filter, identified as 21F5, and the Gluten Filter Vacuum Pump, identified as 21C105, in Condition D.2.2

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

***

(b) Wet Milling Operations, consisting of:

***

(5) **Two (2)** ~~One (1)~~ Third Stage Germ Wash Screens, identified as 15J203, constructed in **2012 and 15J204, constructed in 2006**~~1996~~, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

***

(9) **Ten (10)**~~Seven (7)~~ Grit Starch Separator (Third Grind) Screens, identified as 15J15 through 15J19, 15J21, and 15J22, constructed in 1990, **and 15J20, 15J23, and 15J38, constructed in 2007,** with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

***

(11) **Nine (9)**~~Six (6)~~ Sixth Stage Fiber Wash Screens, identified as 15J86, 15J87, 15J88, 15J89, 15J220, and 15J221, constructed in 1966, **and 15J241, 15J242, and 15J243, constructed in 2007,** with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

***

(20) **Three (3)**~~Two (2)~~ Second Grind Dewatering Screens, identified as 15J14 and 15J3, constructed in 1966, **and 15J248 constructed in 2007,** with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

***

(51) One (1) Fiber Dewatering **Press Feed Conveyor** ~~Screen~~, identified as **21U1** ~~21F100~~, constructed in 1990, **providing aspiration to the Fiber Press Dewatering Screens,** with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(52) One (1) Fiber Dewatering **Press Discharge Conveyor**~~Screen~~, identified as **21U302** ~~21F101~~, constructed in **2007** ~~1990~~, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

***

(58) One (1) Germ Press Discharge Conveyor, identified as 21U45, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

***

(e) Starch Modification Operations, consisting of:

***

(41) One (1) Flash 4 Larox Filter Feed Tank, identified as 54V403, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting ~~to~~ **inside via** stack 420.

(42) ~~One (1)~~**Two (2)** Flash 4 Larox Filter**s** and **one (1)** Air Release Tank, identified as 54F421**/54F422**/54V421, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 421.

~~(43) One (1) Flash 4 Larox Filter and Air Release Tank, identified as 54F422/54V422, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 422.~~

(~~44~~**43**) One (1) Flash 4 Larox Filter and Air Release Tank, identified as 54F4MM/54V4MM, approved in 2014 for construction with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 423.

(~~45~~**44**) Two (2) Spray Dryer 1 Feed Tanks, identified as 30V1 and 30V2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 195.

(~~46~~**45**) Three (3) Spray Dryer 1 Process Tanks, identified as 40V11, 40V12, and 40V14, constructed in 1988, with emissions uncontrolled, and exhausting to stack 222.

(~~47~~**46**) One (1) Spray Dryer 2 Feed Tank, identified as 46V297, constructed in 2006, with emissions uncontrolled, and exhausting to stack 434.

(~~48~~**47**) One (1) Spray Dryer 2 Sweco Tank, identified as 46V201, constructed in 2006, with emissions uncontrolled, and exhausting to stack 436.

(~~49~~**48**) One (1) Spray Dryer 2 Waste Surge Tank, identified as 46V213, constructed in 2006, with emissions uncontrolled, and exhausting to stack 424.

(~~50~~**49**) One (1) Spray Dryer 2 Under Flow Tank, identified as 46V204, constructed in 2006, with emissions uncontrolled, and exhausting to stack 435.

(~~51~~**50**) Four (4) Belt Dryer Feed Tanks, identified as 45V117 through 45V120, constructed in 1966, with emissions uncontrolled, and exhausting to stack 180.

***

(g) Starch Drying and Handling Operations, consisting of:

***

(3) One (1) Pneumatic Product Transfer, identified as 40F7, constructed in 1986, with emissions controlled by integral product receiver/baghouse 40F7 **and scrubber 40F3**, and exhausting to stack ~~70~~**69**.

***

(67) #2 Starch Agglomerator, identified as **52D201**~~52D210~~, approved in 2014 for construction, controlled by four product collection cyclones (**52F211**~~52F220~~ - **52F214**~~52F223~~) and baghouse **52F202**~~52F230~~, and exhausting to stack 361. #2 Starch Agglomerator system consists of the following:

(A) One (1) dryer equipped with a direct-fired natural gas low NOx burner, with heat input capacity of 20 MMBtu/hr.

(B) One (1) mechanical fluid bed, identified as **52Y202**~~52Y211~~, aspirated to the inlet of the agglomerator.

(C) One (1) fines recycle system, identified as **52C207**~~52C221~~, transferring product to the inlet of the agglomerator.

(D) One (1) #5 tote packing system with head hopper, identified as 52V245 and tote packer, identified as 52Z245 aspirated to the **Packer #6 House Dust Collector, identified as 56F602**~~agglomerator #2 packer dust collector, identified as 52F225~~, exhausting via vent ~~362~~ **381** to stack ~~361~~**380**.

(E) One (1) #7 bag packing system with head hopper, identified as **52V214**~~52V247~~ and bag packer, identified as **56Z700**~~52Z247~~ aspirated to **four product collection cyclones (52F211-52F214) and baghouse 52F202, and exhausting**~~the agglomerator #2 packer dust collector, identified as 52F225, exhausting via vent 362~~ to stack 361. General aspiration of the packer #7 bag conveying equipment is by the packer #6 House Dust Collector, identified as 56F602.

~~(F) One (1) reprocess bag dump, identified as 52V225, aspirated to the agglomerator #2 packer dust collector, identified as 52F225, and exhausting via vent 362 to stack 361. Reprocessed product is also transferred via a blower, identified as 52C224 to the packer dust collector, identified as 52F225, from the bag dump.~~

***

(69) #4 Starch Flash Dryer, identified as 54D450, approved in 2014 for construction, controlled by six product collection cyclones, identified as 54F451-54F456, followed by a wet scrubber, identified as 54F460, and exhausting to stack 388, with a bottlenecked capacity of 250 million lb/year of propylated starch. #4 Starch Flash Dryer System consists of the following:

(A) One (1) dryer equipped with direct-fired natural gas low-NOx burner, with heat input capacity of ~~32~~**40** MMBtu/hr.

***

(h) Starch Packaging and Loadout Operations, consisting of:

***

(25) One (1) Bag Packer #6 System, approved in 2014 for construction, consisting of the following:

(A) One (1) Packer #6 Product Receiver, identified as 56F601, with emissions controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(B) One (1) Packer #6 Head Hopper, identified as 56V600, with emissions controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(C) One (1) Bag Packer #6, identified as 56Z600, **consisting of four (4) bag packing stations,** with emissions controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(D) One (1) Reprocess Bag Dump Transfer Line, identified as 56C630, with emissions controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(E) One (1) Packer #6 House Dust Collector, identified as 56F602, controlling emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6 and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, and exhausting via vent 381 to stack ~~361~~**380**.

(F) One (1) Reprocess Bag Dump, identified as 56V630 with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack ~~361~~**380**.

(G) One (1) Packer #6 Screenings Transfer System, identified as 56C604, with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack 380.

***

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(b) Wet Milling Operations, consisting of:

***

(5) **Two (2)** ~~One (1)~~ Third Stage Germ Wash Screens, identified as 15J203, constructed in **2012 and 15J204, constructed in 2006**~~1996~~, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

***

(9) **Ten (10)**~~Seven (7)~~ Grit Starch Separator (Third Grind) Screens, identified as 15J15 through 15J19, 15J21, and 15J22, constructed in 1990, **and 15J20, 15J23, and 15J38, constructed in 2007,** with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

***

(11) **Nine (9)**~~Six (6)~~ Sixth Stage Fiber Wash Screens, identified as 15J86, 15J87, 15J88,

15J89, 15J220, and 15J221, constructed in 1966, **and 15J241, 15J242, and 15J243, constructed in 2007,** with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

***

(20) **Three (3)**~~Two (2)~~ Second Grind Dewatering Screens, identified as 15J14 and 15J3, constructed in 1966, and 15J248 constructed in 2007, **and 15J248 constructed in 2007,** with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

***

(51) One (1) Fiber Dewatering **Press Feed Conveyor** ~~Screen~~, identified as **21U1** ~~21F100~~, constructed in 1990, **providing aspiration to the Fiber Press Dewatering Screens,** with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(52) One (1) Fiber Dewatering **Press Discharge Conveyor**~~Screen~~, identified as **21U302** ~~21F101~~, constructed in **2007** ~~1990~~, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

***

(58) One (1) Germ Press Discharge Conveyor, identified as 21U45, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for sulfur dioxide (SO_2) and VOC using the BACT:

(1) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J203, **15J204,** 14V19, 18V520, 18V522, 15J15 through 15J19, **15J20,** 15J21, 15J22, **15J23, 15J38,** 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, **15J241, 15J242, 15J243,** 15J100, 15J99, 15V25, 15V26, 21V33, 15J5A, 15V23, 15J53, 15J14, 15J3**, 15J248**, 15V22, 15V24, 15V27, 15V2, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 14V18, 14V20, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, ~~21F100, 21F101~~**21U1, 21U302**, 21V159, 21V59, 21V58, 21V56, ~~and~~ 15V210**, and 21U45**; and

***

D.2.2 Prevention of Significant Deterioration (PSD) Minor Limit SO_2, VOC [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014**/2015** modification, the Permittee shall comply with the following:

***

Compliance with these limits, in combination with the limits in Conditions D.4.1, D.5.2, D.7.3, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014**/2015** modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NO_X, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014**/2015** modification.

***

D.2.3 Sulfur Dioxide (SO_2) and Volatile Organic Compounds (VOC) Control

In order to comply with Condition D.2.1 and D.2.2, scrubber 15F401 used for SO_2 and VOC control shall be in operation and control SO_2 and VOC emissions at all times when any of the following emission units that are aspirated to the scrubber are in operation:

(a) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J203, **15J204,** 14V19, 18V520, 18V522, 15J15 through 15J19, **15J20,** 15J21, 15J22, **15J23, 15J38,** ~~15J39, 15J40,~~ 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, **15J241, 15J242, 15J243,** 15J100, 15J99, 15V25, 15V26, 21V33, 15J5A, 15V23, 15J53, 15J14, 15J3**, 15J248**, 15V22, 15V24, 15V27, 15V2, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 14V18, 14V20, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, ~~21F5, 21C105,~~ 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, ~~21F100, 21F101~~**21U1, 21U302**, 21V159, 21V59, 21V58, 21V56, ~~and~~ 15V210**, and 21U45**;

***

D.4.1 Prevention of Significant Deterioration (PSD) Minor Limit SO_2, VOC, PM, PM_{10}, $PM_{2.5}$ [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014**/2015** modification, the Permittee shall comply with the following:

***

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.5.2, D.7.3, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014**/2015** modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NOx, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014**/2015** modification.

***

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(e) Starch Modification Operations, consisting of:

***

(41) One (1) Flash 4 Larox Filter Feed Tank, identified as 54V403, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting **inside via**~~to~~ stack 420.

(42) **Two (2)**~~One (1)~~ Flash 4 Larox Filter**s** and **one (1)** Air Release Tank, identified as 54F421**/54F422**/54V421, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7),

all other emissions are uncontrolled, and exhausting to stack 421.

~~(43) One (1) Flash 4 Larox Filter and Air Release Tank, identified as 54F422/54V422, approved in 2014 for construction, with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 422.~~

(~~44~~**43**) One (1) Flash 4 Larox Filter and Air Release Tank, identified as 54F4MM/54V4MM, approved in 2014 for construction with VOC emissions uncontrolled and aggregated with the Starch Flash Dryer #4 (54D450) (Section D.7), all other emissions are uncontrolled, and exhausting to stack 423.

(~~45~~**44**) Two (2) Spray Dryer 1 Feed Tanks, identified as 30V1 and 30V2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 195.

(~~46~~**45**) Three (3) Spray Dryer 1 Process Tanks, identified as 40V11, 40V12, and 40V14, constructed in 1988, with emissions uncontrolled, and exhausting to stack 222.

(~~47~~**46**) One (1) Spray Dryer 2 Feed Tank, identified as 46V297, constructed in 2006, with emissions uncontrolled, and exhausting to stack 434.

(~~48~~**47**) One (1) Spray Dryer 2 Sweco Tank, identified as 46V201, constructed in 2006, with emissions uncontrolled, and exhausting to stack 436.

(~~49~~**48**) One (1) Spray Dryer 2 Waste Surge Tank, identified as 46V213, constructed in 2006, with emissions uncontrolled, and exhausting to stack 424.

(~~50~~**49**) One (1) Spray Dryer 2 Under Flow Tank, identified as 46V204, constructed in 2006, with emissions uncontrolled, and exhausting to stack 435.

(~~51~~**50**) Four (4) Belt Dryer Feed Tanks, identified as 45V117 through 45V120, constructed in 1966, with emissions uncontrolled, and exhausting to stack 180.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

***

D.5.2 Prevention of Significant Deterioration (PSD) Minor Limit SO_2, VOC [326 IAC 2-2]

***

(b) In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014**/2015** modification, the Permittee shall comply with the following:

***

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.4.1, D.5.2, D.7.3, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014**/2015** modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NO_X, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014**/2015** modification.

***

(11) Pneumatic Product Transfer System (40F7) will be vented to the inlet of scrubber 40F3, exhausting to stack 69 rather than stack 70. Therefore, the source has requested a revision to the

PSD minor limits for PM for Starch Flash Dryer #1 (40D1) and Pneumatic Product Transfer System (40F7) in Condition D.7.2.

(12) The source has requested revisions to the PSD minor limits in Conditions D.7.3 and D.8.3.

(13) The 326 IAC 6-3-2 allowable particulate emission rates in Conditions D.7.4 and D.8.4 have been revised based on the PSD minor limits in Conditions D.7.3 and D.8.3. These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities, for which confidential treatment has been requested. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Starch Drying and Handling Operations, consisting of:

***

(3) One (1) Pneumatic Product Transfer, identified as 40F7, constructed in 1986, with emissions controlled by integral product receiver/baghouse 40F7 **and scrubber 40F3**, and exhausting to stack ~~70~~**69**.

***

(67) #2 Starch Agglomerator, identified as **52D201**~~52D210~~, approved in 2014 for construction, controlled by four product collection cyclones (**52F211**~~52F220~~ - **52F214**~~52F223~~) ~~followed by~~**and** baghouse **52F202**~~52F230~~, and exhausting to stack 361. #2 Starch Agglomerator system consists of the following:

(A) One (1) dryer equipped with a direct-fired natural gas low NOx burner, with heat input capacity of 20 MMBtu/hr.

(B) One (1) mechanical fluid bed, identified as **52Y202**~~52Y211~~, aspirated to the inlet of the agglomerator.

(C) One (1) fines recycle system, identified as **52C207**~~52C221~~, transferring product to the inlet of the agglomerator.

(D) One (1) #5 tote packing system with head hopper, identified as 52V245 and tote packer, identified as 52Z245 aspirated to the **Packer #6 House Dust Collector, identified as 56F602**~~agglomerator #2 packer dust collector, identified as 52F225~~, exhausting via vent ~~362~~ **381** to stack ~~361~~**380**.

(E) One (1) #7 bag packing system with head hopper, identified as ~~52V247~~**52V214** and bag packer, identified as **56Z700**~~52Z247~~ aspirated to **four product collection cyclones (52F211-52F214) and baghouse 52F202**~~the agglomerator #2 packer dust collector, identified as 52F225~~, exhausting ~~via vent 326~~ to stack 361. General aspiration of the packer #7 bag conveying equipment is by the packer #6 House Dust Collector, identified as 56F602.

~~(F) One (1) reprocess bag dump, identified as 52V225, aspirated to the agglomerator #2 packer dust collector, identified as 52F225, and exhausting via vent 362 to stack 361. Reprocessed product is also transferred via a blower, identified as 52C224 to the packer dust collector, identified as 52F225, from the bag dump.~~

***

(69) #4 Starch Flash Dryer, identified as 54D450, approved in 2014 for construction, controlled by six product collection cyclones, identified as 54F451-54F456, followed by a wet scrubber, identified as 54F460, and exhausting to stack 388. with a bottlenecked capacity of 250 million lb/year of propylated starch. #4 Starch Flash Dryer System consists of the following:

(A) One (1) dryer equipped with a direct-fired natural gas low-NOx burner, with heat input capacity of ~~32~~**40** MMBtu/hr.

***

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

***

D.7.2 Avoidance Limits for PSD [326 IAC 2-2] [326 IAC 6-3-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from emission units 40D1, 40F7, 7V8, and 7V9 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)
Starch Flash Dryer #1 (40D1)	69	~~1.2~~
Pneumatic Product Transfer (40F7)	~~70~~	~~1.5~~**1.4**
Starch Storage Bin #8 (7V8)	71	0.03
Starch Storage Bin #9 (7V9)	72	0.03

Compliance with the above limits will render the requirements of 326 IAC 2-2 not applicable to emission units 40D1, 40F7, 7V8, and 7V9.

***

D.7.3 Prevention of Significant Deterioration (PSD) Minor Limit PM, PM_{10}, $PM_{2.5}$, SO_2, VOC [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014**/2015** modification, the applicant shall comply with the following:

***

(b) #2 Starch Agglomerator, identified as **52D201**~~52D210~~, Mechanical Fluid Bed, identified as **52Y202**~~52Y211~~, ~~and~~ Fine**s** Recycle System, identified as **52C207**~~52C221~~**, and Bag Packer #7, identified as 56Z700**

(1) The combined PM emissions from #2 Starch Agglomerator, identified as **52D201**~~52D210~~, Mechanical Fluid Bed, identified as **52Y202**~~52Y211~~, ~~and~~ Fine**s** Recycle System, identified as **52C207**~~52C221~~, **bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700,** shall not exceed 2.00 lb/hr.

(2) The combined PM10 emissions from #2 Starch Agglomerator, identified as **52D201**~~52D210~~, Mechanical Fluid Bed, identified as **52Y202**~~52Y211~~, ~~and~~ Fine**s** Recycle System, identified as **52C207**~~52C221~~, **bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700,** shall not exceed 3.08 lb/hr.

(3) The combined PM2.5 emissions from #2 Starch Agglomerator, identified as **52D201**~~52D210~~, Mechanical Fluid Bed, identified as **52Y202**~~52Y211~~, ~~and~~ Fine**s** Recycle System, identified as **52C207**~~52C221~~, **bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700,** shall not exceed 2.19 lb/hr.

***

~~(c) The PM emissions from #5 tote packing system with head hopper, identified as 52V245, tote packer, identified as 52Z245, #7 bag packing system with head hopper, identified as 52V247, bag packer, identified as 52Z247, reprocess bag dump, identified as 52V225, blower, identified as 52C224, shall not exceed 0.13 lb/hr.~~

~~(d) The PM10 emissions from #5 tote packing system with head hopper, identified as 52V245, tote packer, identified as 52Z245, #7 bag packing system with head hopper, identified as 52V247, bag packer, identified as 52Z247, reprocess bag dump, identified as 52V225, blower, identified as 52C224, shall not exceed 0.13 lb/hr.~~

~~(e) The PM2.5 emissions from #5 tote packing system with head hopper, identified as 52V245, tote packer, identified as 52Z245, #7 bag packing system with head hopper, identified as 52V247, bag packer, identified as 52Z247, reprocess bag dump, identified as 52V225, blower, identified as 52C224, shall not exceed 0.069 lb/hr.~~

(~~f~~**c**) Two (2) product storage bins, identified as 52V250 and 52V251

(1) The PM emissions from product storage bins, identified 52V250 and 52V251, shall not exceed ~~0.08~~**0.10** lb/hr, each.

(2) The PM10 emissions from product storage bins, identified 52V250 and 52V251, shall not exceed ~~0.08~~**0.10** lb/hr, each.

(3) The PM2.5 emissions from product storage bins, identified 52V250 and 52V251, shall not exceed ~~0.043~~**0.054** lb/hr, each.

(4) Only one (1) of the two (2) product storage bins, identified as 52V250 and 52V251, shall be in operation at time.

(~~g~~**d**) #4 Starch Flash Dryer (54D450)

(1) The VOC emissions from the #4 Starch Flash Dryer (54D450), including VOC emissions from the Flash 4 Slurry Hold Tank (54V401), Flash 4 Larox Filter Feed Tank (54V403), and Flash 4 Larox Filters (54F421, 54F422, and 54F4MM) and Flash 4 Air Release Tanks (54V421~~, 54V422,~~ and 54V4MM), shall not exceed 6 pounds per 100,000 pounds of propylated starch.

(2) The propylated starch production on #4 Starch Flash Dryer (54D450), shall be limited to a total of ~~250~~**240** million pounds of propylated starch per twelve (12) consecutive month period with compliance determined at the end of each month.

***

(~~h~~**e**) The PM emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.02 lb/hr.

(~~i~~**f**) The PM10 emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.02 lb/hr.

(~~j~~**g**) The PM2.5 emissions from Starch Densifier Mill Surge Hopper, identified as 54V470, shall not exceed 0.01 lb/hr.

(~~k~~**h**) The PM emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed ~~0.23~~**0.13** lb/hr each.

(~~l~~**i**) The PM10 emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed ~~0.23~~**0.13** lb/hr each.

(~~m~~**j**) The PM2.5 emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed ~~0.129~~**0.07** lb/hr each.

(~~n~~**k**) The PM emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed ~~0.23~~**0.13** lb/hr each.

(~~o~~**l**) The PM10 emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed ~~0.23~~**0.13** lb/hr each.

(~~p~~**m**) The PM2.5 emissions from the Product Bins #1, #2, and #3, identified as 07V50, 07V49, 07V48 shall not exceed ~~0.129~~**0.07** lb/hr each.

(~~q~~**n**) PM emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

(~~r~~**o**) PM10 emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

(~~s~~**p**) $PM_{2.5}$ emissions from 41 building house vacuum system shall not exceed 0.04 lb/hr.

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.4.1, D.5.2, D.8.3 and D.9.2, shall limit the net emissions increase from the 2014**/2015** modification to less than twenty-five (25) tons PM, fifteen (15) tons PM10, ten (10) tons PM2.5, forty (40) tons SO2, forty (40) tons NOx, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014**/2015** modification.

D.7.4 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 43V90, 40F7, 25F1, 25G1, 16D4, 7F25, 7V50, 7V49, 7V48, 7V47, 7V46, **52D201**~~52D210~~, **52Y202**~~52Y211~~, **52C207**~~52C221~~, 54D450, **52V214**, 54V470, ~~52V245, 52Z245, 52V247,~~ **56Z700**~~52Z247~~, ~~52V225, 52C224,~~ 54V440, 54V441, 54V4CC, 07V50, 07V49, 07V48, 52V250, and 52V251 shall be limited as follows:

***

~~(c) The particulate emission rate from baghouse 40F7 shall not exceed 0.15 lb/hr. Note: This particulate emission rate limit is more restrictive than the limit provided under Condition D.7.2(a) and represents the PTE of the emission unit after control.~~

***

(~~h~~g) The combined PM emissions from Agglomerator #2, identified as **52D201**~~52D210~~, Mechanical Fluid Bed, identified as **52Y202**~~52Y211~~ and Fine**s** Recycle System, identified as **52C207**~~52C221~~, **bag packing system with head hopper, identified as 52V214 and Bag Packer #7, identified as 56Z700,** shall not exceed 2.00 lb/hr.

***

~~(k) The PM emissions from #5 tote packing system with head hopper, identified as 52V245, tote packer, identified as 52Z245, #7 bag packing system with head hopper, identified as 52V247, bag packer, identified as 52Z247, reprocess bag dump, identified as 52V225, blower, identified as 52C224, shall not exceed 0.13 lb/hr.~~

(~~l~~**j**) The PM emissions from the three (3) Product Storage Bins, identified as 54V440, 54V441, and 54V4CC, shall not exceed ~~0.23~~**0.13** lb/hr each.

(~~m~~**k**) The PM emissions from the Product Bins #1, #2, and #3, identified as **07V50**~~54V50~~, **07V49**~~54V49~~, and **07V48**~~54V48~~ shall not exceed ~~0.23~~**0.13** lb/hr each.

(~~n~~**l**) The PM emissions from product storage bins, identified 52V250 and 52V251, shall not exceed ~~0.08~~**0.10** lb/hr each.

***

D.7.6 Particulate Control

***

(g) In order to comply with Conditions D.7.3 and D.7.4, baghouses 41F133, ~~52F225,~~**52F202**~~52F230~~, 52F250, 52F251, 54F471, 54F440, 54F441, 54F4CC, 07F71, 07F72, and 07F73 for particulate control shall be in operation and control particulate emissions from emission units 41F133, ~~52V245, 52Z245, 52V247,~~ **56Z700**~~52Z247,~~ **52V214,** ~~52V225, 52C224,~~ **52D201**~~52D210~~, **52Y202**~~52Y211~~, **52C207**~~52C221~~, 52V250, 52V251, 54V470, 54V440, 54V441, 54V4CC, 07V48, 07V49, and 07V50 at all times those emission units are in operation.

***

D.7.8 Testing Requirements [326 IAC 2-1.1-11]

***

(f) In order to demonstrate compliance with Condition D.7.3(b)(1), (2), and (3), not later than 180 days after the startup of the Agglomerator #2, identified as **52D201**~~52D210~~, the Mechanical Fluid Bed, identified as **52Y202**~~52Y211~~, ~~and~~ the Fine**s** Recycle System, identified as **52C207**~~52C221~~, **and Bag Packer #7, identified as 56Z700,** the Permittee shall perform PM, PM10, and PM2.5 testing utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

~~(g) In order to demonstrate compliance with Conditions D.7.3(c), (d), and (e) and Conditions D.8.3(a), 8.3(b), and 8.3(c) in Starch Packaging and Loadout Operations, the Permittee shall perform PM, PM10, and PM2.5 testing on one of the two product receiver bagfilters controlling these emission units utilizing methods approved by the commissioner not later than 180 days after the startup of the #5 tote packing system with head hopper, identified as 52V245, tote packer, identified as 52Z245, #7 bag packing system with head hopper, identified as 52V247, bag packer, identified as 52Z247, reprocess bag dump, identified as 52V225, blower, identified as 52C224, or not later than 180 days after the startup of the Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration and the unit tested shall be the unit in which the longest amount of time has elapsed since its previous test. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.~~

(~~h~~**g**) In order to demonstrate compliance with Conditions D.7.3(~~f~~**c**)), not later than 180 days after the startup of the product storage bins, identified as 52V250 and 52V251, the Permittee shall perform PM, PM10, and PM2.5 testing on one of the bin vent filters controlling these emission units utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration and the unit tested shall be the unit in which the longest amount of time has elapsed since its previous test. PM_{10} and $PM_{2.5}$ includes

both filterable and condensable PM.

(~~i~~**h**) In order to demonstrate compliance with Condition D.7.3(~~g~~**d**), not later than 180 days after the startup of the #4 Starch Flash Dryer, identified as 54D450, the Permittee shall perform PM, PM10, and PM2.5 testing utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(~~j~~**i**) In order to demonstrate compliance with Conditions D.7.3(~~k~~**h**), (~~l~~**i**), and (~~m~~**j**), and Condition D.7.3(~~n~~**k**), (~~o~~**l**), and (~~p~~**m**), not later than 180 days after the startup of the three (3) Product Storage Bins, identified as 54V440, 54V441, 54V4CC or the three (3) Product Bins #1, #2, #3, identified as 07F50, 07F49, and 07F48 the Permittee shall perform PM, PM10, and PM2.5 testing on one of the six (6) bin vent filters controlling these units utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration and the unit tested shall be the unit in which the longest amount of time has elapsed since its previous test. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(~~k~~**j**) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.9 Visible Emissions Notations

***

(b) Visible emission notations of the stacks' ~~70,~~ 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 361, 366, 385, 386, 387, 388, 389, 401, 402 and 432 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

***

D.7.10 Scrubber Parametric Monitoring [40 CFR 64]

***

(e) The Permittee shall monitor and record the recirculation rate from scrubber 54F460 continuously when emission unit 54D450 is in operation.

***

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.3(~~g~~**d**).

***

***

D.7.11 Baghouse Parametric Monitoring

***

(b) The Permittee shall record the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F210, 41F211, 19F402, 30F15, 50F102, and **52F202**~~52F230~~ used in conjunction with emission units 25G1, 40G20, 40G21, 40G88, 41G200, 41G201,

19G401, 30G1, and 50D101, and **52D201**~~52D210~~ at least once per day when the respective emission units are in operation.

***

***

D.7.14 Record Keeping Requirements

***

(b) To document the compliance status with Condition D.7.9, the Permittee shall maintain a daily record of visible emission notations of stacks 69, 73, 177, 265, 360, 361, ~~70,~~ 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 361, 366, 385, 386, 387, 388, 389, 401, 402, and 432 controlling the Starch Drying and Handling Operation exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

***

(e) To document the compliance status with Condition D.7.11, the Permittee shall maintain a daily record of the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F210, 41F211, 19F402, 30F2, 30F3, 30F15, 46F231, 46F232, 50F102, and **52F202**~~52F230~~ controlling the Starch Handling and Drying Operation exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(f) In order to document the compliance status with Condition D.7.3(~~g~~**d**)(2), the Permittee shall maintain a monthly record of the propylated starch produced on #4 Starch Flash Dryer (54D450).

***

D.7.15 Reporting Requirements

(a) A quarterly report of the combined propylene oxide input to document the compliance status with Conditions D.7.1(e)(2), D.7.3(a)(2), D.7.3(~~g~~**d**)(2), and D.7.5(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

(b) A quarterly report of propylated starch production on #4 Starch Flash Dryer (54D450), to document the compliance status with condition D.7.3(~~g~~**d**)(2) shall be submitted not later than thirty (30) days after the end of the quarter being reported.

***

SECTION D.8 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(h) Starch Packaging and Loadout Operations, consisting of:

***

(25) One (1) Bag Packer #6 System, approved in 2014 for construction, consisting of the following:

(A) One (1) Packer #6 Product Receiver, identified as 56F601, with emissions controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(B) One (1) Packer #6 Head Hopper, identified as 56V600, with emissions

controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(C) One (1) Bag Packer #6, identified as 56Z600, **consisting of four (4) bag packing stations,** with emissions controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(D) One (1) Reprocess Bag Dump Transfer Line, identified as 56C630, with emissions controlled by baghouse 56F601, and exhausting ~~via vent 380~~ to stack ~~361~~**380**.

(E) One (1) Packer #6 House Dust Collector, identified as 56F602, controlling emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6 and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, and exhausting via vent 381 to stack ~~361~~**380**.

(F) One (1) Reprocess Bag Dump, identified as 56V630 with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack ~~361~~**380**.

(G) One (1) Packer #6 Screenings Transfer System, identified as 56C604, with emissions controlled by baghouse 56F602, and exhausting via vent 381 to stack 380.

***

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

***

D.8.3 Prevention of Significant Deterioration (PSD) Minor Limit PM, PM_{10}, $PM_{2.5}$ [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to the 2014**/2015** modification, the applicant shall comply with the following:

(a) The combined PM emission**s** from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630 shall not exceed ~~0.13~~**0.21** lb/hr.

(b) The combined PM_{10} emission**s** from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630 shall not exceed ~~0.13~~**0.21** lb/hr.

(c) The combined $PM_{2.5}$ emission**s** from Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630 shall not exceed ~~0.069~~**0.115** lb/hr.

(d) The combined PM emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, ~~and~~ Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, **#5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604,** controlled by baghouse 56F602, shall not exceed 0.54 lb/hr.

(e) The combined PM_{10} emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, ~~and~~ Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, **#5 tote packing system**

with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604, controlled by baghouse 56F602, shall not exceed 0.54 lb/hr.

(f) The combined $PM_{2.5}$ emissions from Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, Reprocess Bag Dump, identified as 56V630, ~~and~~ Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, **#5 tote packing system with head hopper, identified as 52V245, and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604,** controlled by baghouse 56F602, shall not exceed 0.294 lb/hr.

Compliance with these limits, in combination with the limits in Conditions D.2.2, D.4.1, D.5.2, D.7.3 and D.9.2, shall limit the net emissions increase from the 2014**/2015** modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NOx, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014**/2015** modification.

D.8.4 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 17V6, 16F5, 17F27, 17Z03, 20F1, 20F50, 20F61, 56F601, 56V600, 56Z600, and 56C630 shall be limited as follows:

***

(f) The particulate emissions rate from baghouse 56F601 shall not exceed ~~0.13~~**0.21** lb/hr.

***

Compliance Determination Requirements

D.8.5 Particulate Control

***

(d) In order to comply with Condition D.8.3, baghouses 56F601 and 56F602 for particulate control shall be in operation and control particulate emissions from emission units 56F601, 56V600, 56Z600, 56C630, 56V630, **52V245, 52Z245, 56C604,** Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6 and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator at all times those emission units are in operation.

***

D.8.7 Testing Requirements [326 IAC 2-7-5(1)]

***

(b) In order to demonstrate compliance with Conditions D.8.3(a), 8.3(b), and 8.3(c) ~~and with Conditions D.7.3(c), (d), and (e) in Starch Drying and Handling Operations~~, the Permittee shall perform PM, PM10, and PM2.5 testing on ~~one of~~ the ~~two~~ product receiver bagfilter~~s~~ controlling these emission units utilizing methods approved by the commissioner not later than 180 days after the startup of the Packer #6 Product Receiver, identified as 56F601, Packer #6 Head Hopper, identified as 56V600, Packer #6, identified as 56Z600, Reprocess Bag Dump Transfer Line, identified as 56C630**.** ~~or not later than 180 days after the startup of the #5 tote packing system with head hopper, identified as 52V245, tote packer, identified as 52Z245, #7 bag packing system with head hopper, identified as 52V247, bag packer, identified as 52Z247, reprocess bag dump, identified as 52V225, blower, identified as 52C224,~~ Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} and $PM_{2.5}$ includes both filterable and condensable PM.

(c) Not later than 180 days after the startup of the bag packer #6 system, in order to demonstrate compliance with Condition D.8.3(d), D.8.3(e), and D.8.3(f), the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing on the Ultrasonic Sealers and Bag Conveying Systems associated with Packer #6, reprocess Bag Dump, identified as 56V630, and Bag Packer Conveying Equipment associated with #2 Starch Agglomerator, **#5 tote packing system with head hopper, identified as 52V245 and tote packer, identified as 52Z245, and Packer #6 Screenings Transfer System, identified as 56C604,** utilizing methods approved by the commissioner. **Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.** PM_{10} and $PM_{2.5}$ includes filterable and condensable PM.

***

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.8.8 Visible Emissions Notations

***

(b) Visible emission notations of the stacks' 102, 189, 254, 332, 333, 334, 355, 361, **380,** and 404 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

***

D.8.9 Baghouse Parametric Monitoring

***

(b) The Permittee shall record the pressure drop continuously across baghouse 56F602 used in conjunction with emission units 56 Bldg Conv., 56V630, ~~and~~ 52 Bldg Conv.**, 52V245, 52Z245, and 56C604** when the respective emission units are in operation.

***

***

D.8.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.8.8, the Permittee shall maintain a daily record of visible emission notations of stacks 102, 177, 189, 254, 332, 333, 334, 355, 361, **380,** and 404 controlling the Starch Packaging and Loadout Operation exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

***

***

(13) Condition D.9.1(g) has been revised to remove the word "oil." Boilers 11B1, 11B2, and 11B3 burn only natural gas.

(14) The source has requested to remove the PM testing requirement for boiler 31B1, which burns only natural gas.

(15) The BACT conditions for Boiler 31B1 have been revised (see more detailed explanation in 'State Rule Applicability Determination' section, 326 IAC 2-2 of this TSD).

D.9.1 Prevention of Significant Deterioration: Best Available Control Technology [326 IAC 2-2-3]

Pursuant to PSD (79) 1557, issued June 21, 1984, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004:

~~(a) The controlled particulate matter (PM) emissions from boiler 31B1 shall not exceed 0.05 pounds per MMBtu heat input.~~

~~(b) The PM emissions from boiler 31B1 shall not exceed 56 tons per year, combined.~~

(**a**~~c~~) The sulfur dioxide (SO_2) emissions from boiler 31B1 shall not exceed 1.2 pounds per MMBtu heat input and 1,215 tons per 12 month consecutive period.

(**b**~~d~~) The nitrogen oxides (NO_x) emissions from boiler 31B1 shall not exceed 0.7 pounds per MMBtu and 782 tons per 12 month consecutive period.

~~(e) The carbon monoxide (CO) emissions from boiler 31B1 shall not exceed 10.2 pounds per hour and 45 tons per 12 month consecutive period,~~

~~(f) The volatile organic compounds (VOC) emissions from boiler 31B1 shall not exceed 1.1 pounds per hour and 5 tons per 12 month consecutive period.~~

(~~g~~**c**) Only one of the identical gas-fired boilers (11B1, 11B2, or 11B3) will be operated when 31B1 is operating. The only exception is the period of time required to replace the operation of boiler 31B1 with the operation of the two remaining standby gas~~/oil~~ boilers. In no case will this period of time exceed eight (8) hours.

D.9.2 Prevention of Significant Deterioration (PSD) Minor Limit NOX, CO [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2014**/2015** modification, the Permittee shall comply with the following:

***

Compliance with these limits, in combination with the limits in Conditions D.4.1, D.5.2, D.7.3, and D.8.3, shall limit the net emissions increase from the 2014**/2015** modification to less than twenty-five (25) tons PM, fifteen (15) tons PM_{10}, ten (10) tons $PM_{2.5}$, forty (40) tons SO_2, forty (40) tons NO_X, forty (40) tons VOC, and one-hundred (100) tons CO per twelve consecutive month period, and therefore, render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2014**/2015** modification.

***

D.9.5 Testing Requirements [326 IAC 2-1.1-11]

~~(a) In order to demonstrate compliance with Conditions D.9.1(a) and D.9.1(b), the Permittee shall perform PM testing of emission unit 31B1 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.~~

(~~b~~**a**) In order to demonstrate compliance with Condition D.9.2(a), not later than 180 days after the startup of the NG-fired boiler, identified as 31B1, the Permittee shall perform NOx testing, utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(~~c~~**b**) In order to demonstrate compliance with Condition D.9.2(b), not later than 180 days after the startup of the NG-fired boiler, identified as 31B1, the Permittee shall perform CO testing, utilizing methods approved by the commissioner. Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(~~d~~**c**) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

***

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name:	Tate & Lyle Ingredients Americas LLC
Source Address:	2245 North Sagamore Parkway, Lafayette, IN 47904
Part 70 Permit No.:	T157-27029-00003
Facility:	#4 Starch Flash Dryer
Parameter:	Propylated Starch Production
Limit:	Two hundred and **forty**~~fifty~~ (**240**~~250~~) million pounds of propylated starch per twelve consecutive month period with compliance determined at the end of each month.

***

Additional Changes

IDEM, OAQ made additional modifications to the permit as described below in order to update the language to match the most current version of the applicable rule, to eliminate redundancy within the permit, and to provide clarification regarding the requirements of these conditions.

(1) IDEM is changing Section C - Compliance Monitoring to clearly describe when new monitoring for new and existing units must begin.

(2) IDEM clarified Section C - Instrument Specifications to indicate that the analog instrument must be capable of measuring the parameters outside the normal range.

(3) IDEM added "where applicable" to the lists in Section C - General Record Keeping Requirements to more closely match the underlying rule.

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] [40 CFR 64] [326 IAC 3-8]

(a) For new units:

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(~~a~~**b**) **For existing units:**

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of

permit issuance ~~or of initial start-up, whichever is later,~~ to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance ~~or the date of initial startup, whichever is later~~, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

~~Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.~~

(~~b~~**c**) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(~~c~~**d**) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. **The analog instrument shall be capable of measuring values outside of the normal range.**

***

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following**, where applicable**:

(AA) All calibration and maintenance records.

(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following**, where applicable**:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

***

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 157-35854-00003 and Significant Permit Modification No. 157-36009-00003. The staff recommend to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Julie Mendez at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-1243 or toll free at 1-800-451-6027 extension 4-1243.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Sagamore Wet Milling Yield Improvement and Starch Drying Expansion Project: Calculation Sheet Index

Sheet No.	Tab Title	Description
1	Summary	Overall calculation results summary table - project and net emissions increases
2	Proj Summary	Project emissions increase summary results
3	Net Summary	Contemporaneous emissions increases/decreases summary results
4	Wet Mill New Unit PTE	PTE calculations for new units associated with yield improvement project (wet mill)
5	Starch New Unit PTE	PTE calculations for new units associated with starch expansion project
6	Affected Units ATPA	ATPA calculations for affected existing emissions units
7	ATPA Prod Inputs	Production rate inputs for PAE and EE calculations
8	Yield Proj Material Bal	Yield improvement project material balance used to derive ATPA calculation inputs
9	P.O. Balance BAE	Propylene Oxide modified starch material balance used for determining BAE for VOC
10	P.O. Balance PAE	Propylene Oxide modified starch material balance used for determining PAE and CHAE VOC
11	P.O. Bal New Reactors	Propylene Oxide modified starch material balance used for determining PTE for new reactors
12	Ox Starch Reactor Detail	Calculation detail for proposed new oxidized starch reactor (18V274)
13	Fug Summary	Fugiitve emissions summary
14	Bldg Fugitives	Building fugitive emissions calculations
15	Bldg Analytical	Input data for building fugitives calculations
16	WWTP Fug	Wastewater treatment plant fugitive emissions calculations
17	VMT Calcs	Vehicle miles traveled calculations
18	Paved Road Fug	Paved road fugitive emissions calculations
19	Truck Loading & Receiving Fug	Truck loading and receiving fugitive emissions calculations
20	Coal Blr Calc Summary	Coal boiler conversion calculation summary results
21	Coal Blr Calc Detail	Coal boiler conversion calculation detail
22	Coal Blr Prod & CEMS Data	Coal boiler production and CEMS data (used to determine BAE for coal boiler and associated equipment)
23	Belt Dryer Sys Shutdown	Belt dryer system shutdown emissions calculations

Glossary

acfm	actual cubic feet per minute
ATPA	Actual-to-projected-actual emissions test
BAE	Baseline actual emissions
Btu	British thermal unit
Bu	Bushel
c.w.	Commercial weight
CEMS	Continuous emissions monitoring system
cf	Cubic foot
cfm	cubic feet per minute
CHA	Could have accommodated (generally applied to production rate)
CHAE	Could have accommodated emissions (emissions that the unit(s) could have accommodated in the selected basline period)
CO	Carbon monoxide
CO2	Carbon dioxide
CO2e	GHGs expressed as carbon dioxide equivalent emissions

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

DS	Dry solids
EE	Excludable emissions
F	Fluorides
GHGs	Greenhouse gases
gpm	Gallons per minute
H2SO4	Sulfuric acid mist
kbu	Thousand bushels
mcf	Thousand cubit feet
mmbu	Million bushels
mmcf	Million cubic feet
NOx	Nitrogen oxides
P.O.	Propylene oxide
PAE	Projected actual emissions
Pb	Lead
PM	Particulate matter, filterable only
PM10	Particulate matter ≤ 10 µm, includes condensables
PM2.5	Particulate matter ≤ 2.5 µm, includes condensables
PTE	Potential-to-emit
scfm	standard cubic feet per minute
SO2	Sulfur dioxide
VOC	Volatile organic compounds
WWTP	Wastewater treatment plant

Appendix A: Emissions Calculations
Coal Boiler (31B1) Coal Combustion Emissions
Utility Area

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Coal Higher Heating Value (Btu/lb)	11500
Boiler Heat Input (MMBtu/hr) [1]	231
Boiler Coal Usage (tons/hr) [2]	10.043
$PM_{2.5}$:PM_{10} Ratio based on SCC Code for Coal Combustion	0.3485
Hours of Operation (hr/yr)	8760

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	0.7	lb/MMBtu [5]	161.70	708.25
CO	10.2	lb/hr [6]	10.20	44.68
PM/PM_{10}	0.05	lb/MMBtu [5]	11.55	50.59
$PM_{2.5}$	0.017	lb/MMBtu [7]	4.03	17.63
SO_2	1.2	lb/MMBtu [5]	277.20	1214.14
VOC	1.1	lb/hr [6]	1.10	4.82
CO_2	6,250	lb/ton coal [8]	16,603	72,722
CH_4	0.04	lb/ton coal [9]	0.11	0.47
N_2O	0.08	lb/ton coal [9]	0.21	0.93
GHGs [10]			16,603	72,723
CO_2e [11]			16,671	73,020
HAPs				
POM				
Biphenyl	1.70E-06	lb/ton coal [12]	1.71E-05	7.48E-05
Acenaphthene	5.10E-07	lb/ton coal [12]	5.12E-06	2.24E-05
Acenaphthylene	2.50E-07	lb/ton coal [12]	2.51E-06	1.10E-05
Anthracene	2.10E-07	lb/ton coal [12]	2.11E-06	9.24E-06
Benzo(a)anthracene	8.00E-08	lb/ton coal [12]	8.03E-07	3.52E-06
Benzo(a)pyrene	3.80E-08	lb/ton coal [12]	3.82E-07	1.67E-06
Benzo(b,j,k)fluoranthene	1.10E-07	lb/ton coal [12]	1.10E-06	4.84E-06
Benzo(h,g,i)perylene	2.70E-08	lb/ton coal [12]	2.71E-07	1.19E-06
Chrysene	1.00E-07	lb/ton coal [12]	1.00E-06	4.40E-06
Fluoranthene	7.10E-07	lb/ton coal [12]	7.13E-06	3.12E-05
Fluorene	9.10E-07	lb/ton coal [12]	9.14E-06	4.00E-05
Indeno(1,2,3-cd)pyrene	6.10E-08	lb/ton coal [12]	6.13E-07	2.68E-06
Naphthalene	1.30E-05	lb/ton coal [12]	1.31E-04	5.72E-04
Phenanathrene	2.70E-06	lb/ton coal [12]	2.71E-05	1.19E-04
Pyrene	3.30E-07	lb/ton coal [12]	3.31E-06	1.45E-05
5-Methyl chrysene	2.20E-08	lb/ton coal [12]	2.21E-07	9.68E-07
TOTAL POM			2.08E-04	9.13E-04
Acetaldehyde	5.70E-04	lb/ton coal [13]	5.72E-03	2.51E-02
Acetophenone	1.50E-05	lb/ton coal [13]	1.51E-04	6.60E-04
Acrolein	2.90E-04	lb/ton coal [13]	2.91E-03	1.28E-02
Benzene	1.30E-03	lb/ton coal [13]	1.31E-02	5.72E-02
Benzyl chloride	7.00E-04	lb/ton coal [13]	7.03E-03	3.08E-02
Bis(2-ethylhexyl)phthalate	7.30E-05	lb/ton coal [13]	7.33E-04	3.21E-03
Bromoform	3.90E-05	lb/ton coal [13]	3.92E-04	1.72E-03
Carbon sulfide	1.30E-04	lb/ton coal [13]	1.31E-03	5.72E-03
2-Chloroacetophenone	7.00E-06	lb/ton coal [13]	7.03E-05	3.08E-04
Chlorobenzene	2.20E-05	lb/ton coal [13]	2.21E-04	9.68E-04
Chloroform	5.90E-05	lb/ton coal [13]	5.93E-04	2.60E-03
Cumene	5.30E-06	lb/ton coal [13]	5.32E-05	2.33E-04
Cyanide	2.50E-03	lb/ton coal [13]	2.51E-02	1.10E-01
2,4-Dinitrotoluene	2.80E-07	lb/ton coal [13]	2.81E-06	1.23E-05
Dimethyl sulfate	4.80E-05	lb/ton coal [13]	4.82E-04	2.11E-03
Ethylbenzene	9.40E-05	lb/ton coal [13]	9.44E-04	4.14E-03
Ethyl chloride	4.20E-05	lb/ton coal [13]	4.22E-04	1.85E-03
Ethylene dichloride	4.00E-05	lb/ton coal [13]	4.02E-04	1.76E-03
Ethylene dibromide	1.20E-06	lb/ton coal [13]	1.21E-05	5.28E-05
Formaldehyde	2.40E-04	lb/ton coal [13]	2.41E-03	1.06E-02
Hexane	6.70E-05	lb/ton coal [13]	6.73E-04	2.95E-03
Isophorone	5.80E-04	lb/ton coal [13]	5.83E-03	2.55E-02
Methyl bromide	1.60E-04	lb/ton coal [13]	1.61E-03	7.04E-03
Methyl chloride	5.30E-04	lb/ton coal [13]	5.32E-03	2.33E-02
Methyl hydrazine	1.70E-04	lb/ton coal [13]	1.71E-03	7.48E-03
Methyl methacrylate	2.00E-05	lb/ton coal [13]	2.01E-04	8.80E-04
Methyl tert butyl ether	3.50E-05	lb/ton coal [13]	3.52E-04	1.54E-03
Methylene chloride	2.90E-04	lb/ton coal [13]	2.91E-03	1.28E-02
Phenol	1.60E-05	lb/ton coal [13]	1.61E-04	7.04E-04
Propionaldehyde	3.80E-04	lb/ton coal [13]	3.82E-03	1.67E-02
Tetrachlorotheylene	4.30E-05	lb/ton coal [13]	4.32E-04	1.89E-03
Toluene	2.40E-04	lb/ton coal [13]	2.41E-03	1.06E-02
1,1,1,-Trichloroethane	2.00E-05	lb/ton coal [13]	2.01E-04	8.80E-04
Styrene	2.50E-05	lb/ton coal [13]	2.51E-04	1.10E-03
Xylenes	3.70E-05	lb/ton coal [13]	3.72E-04	1.63E-03
Vinyl acetate	7.60E-06	lb/ton coal [13]	7.63E-05	3.34E-04
HCl	1.20E+00	lb/ton coal [14]	1.21E+01	5.28E+01
HF	1.50E-01	lb/ton coal [14]	1.51E+00	6.60E+00
Antimony	1.80E-05	lb/ton coal [15]	1.81E-04	7.92E-04
Arsenic	4.10E-04	lb/ton coal [15]	4.12E-03	1.80E-02
Beryllium	2.10E-05	lb/ton coal [15]	2.11E-04	9.24E-04
Cadmium	5.10E-05	lb/ton coal [15]	5.12E-04	2.24E-03
Chromium	2.60E-04	lb/ton coal [15]	2.61E-03	1.14E-02
Cobalt	1.00E-04	lb/ton coal [15]	1.00E-03	4.40E-03
Lead	4.20E-04	lb/ton coal [15]	4.22E-03	1.85E-02
Manganese	4.90E-04	lb/ton coal [15]	4.92E-03	2.16E-02
Mercury	8.30E-05	lb/ton coal [15]	8.34E-04	3.65E-03
Nickel	2.80E-04	lb/ton coal [15]	2.81E-03	1.23E-02
Selenium	1.30E-03	lb/ton coal [15]	1.31E-02	5.72E-02
TOTAL HAPs			13.68	59.93

Notes:
[1] Design value
[2] Coal Usage (tons/hr) = Heat Input (MMBtu/hr) x 1000000 Btu/MMBtu ÷ [Coal Higher Heating Value (Btu/lb) x 2000 lb/ton]
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] The lb/MMBtu emission rate is based on a BACT determination.
[6] The lb/hr emission rate is based on a BACT determination.
[7] PM/PM_{10} Emission Factor (lb/MMBtu) x $PM_{2.5}$:PM_{10} Ratio
[8] AP-42, Table 1.1-20, Page 1.1-42, low-volatile bituminous coal
[9] AP-42, Table 1.1-19, Page 1.1-40, PC-fired, dry bottom, tangentially fired
[10] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[11] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[12] AP-42, Table 1.1-13, Page 1.1-33
[13] AP-42, Table 1.1-14, Page 1.1-34
[14] AP-42, Table 1.1-15, Page 1.1-36
[15] AP-42, Table 1.1-18, Page 1.1-39

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Utility Boiler

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
231.0	1020	1983.9

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	Nox**	VOC	CO**
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	0.1 (lb/MMBtu)	5.5	0.07 (lb/MMBtu)
Potential Emission in tons/yr	1.9	7.5	7.5	0.6	101.2	5.5	70.8

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.
PM2.5 emission factor is condensable and filterable PM2.5 combined.
**Emission Factors for Nox and CO: are vendor data in mmbtu/hr

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Emissions (tpy) for Nox and CO = (MMBtu/hr) x Emission Factor (lb/MMBtu) x 8760 (hr/yr) / 2000 (lb/ton)
See page 5 for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
HAPs Emissions

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

	HAPs - Organics						
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene		
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03		
Potential Emission in tons/yr	2.08E-03	1.19E-03	7.44E-02	1.79E+00	3.37E-03	Total	1.87E+00

	HAPs - Metals						
	Lead	Cadmium	Chromium	Manganese	Nickel		
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03		
Potential Emission in tons/yr	4.96E-04	1.09E-03	1.39E-03	3.77E-04	2.08E-03	Total	5.44E-03
						Total HAPs	1.87E+00

Methodology is the same as page 4.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.
See Page 6 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Greenhouse Gas Emissions

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	119,033	2.3	2.2
Summed Potential Emissions in tons/yr	119,037		
CO2e Total in tons/yr	119,740		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Utility Boiler

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: 5/22/2015

	tpy		
Pollutant	Coal	NG	Change
NOx	708.25	101.18	-607.07
CO	44.68	70.82	26.15
PM	50.59	1.88	-48.70
PM10	50.59	7.54	-43.05
PM2.5	17.63	7.54	-10.09
SO2	1214.14	0.60	-1213.54
VOC	4.82	5.46	0.64
CO2e	73,020	119,740	46,720

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Sagamore Wet Milling Yield Improvement and Starch Drying Expansion Project and Net Emissions Increase Summary

Pollutant	Project Emissions Increase (tpy)			Contemporaneous Changes (tpy)	Net Emissions Increase (tpy)	PSD SER (tpy)*	Major Modification?
	New Units (PTE)	Existing Units (ATPA)	Total				
PM	32.74	2.92	35.67	-33.44	2.23	25	No
PM_{10}	46.17	3.45	49.62	-75.47	-25.85	15	No
$PM_{2.5}$	33.77	2.61	36.38	-60.04	-23.66	10	No
SO_2	10.69	3.09	13.78			40	No
NO_x	10.51	4.27	14.78			40	No
CO	21.02	66.88	87.90			100	No
VOC	29.75	9.97	39.72			40	No
H_2SO_4	0.72	0.02	0.74			7	No
F	0.00	0.00	0.00			3	No
Pb	0.00	0.00	0.00			0.6	No
GHGs	30,748	4,330	35,078			75,000	No

* SER = Significant Emission Rate; for GHGs, SER refers to threshold used to determine whether GHGs are "subject to regulation."

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

New Emissions Units

Stack ID	Unit ID	Unit Description	Potential Emissions (tpy)											
			PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs	
17	21F5	Gluten Vacuum Filter	0.00	0.00	0.00	0.86	0.00	0.00	4.65	0.00	0.00	0.00	0.00	*
17	21C105	Gluten Filter Vacuum Pump	0.00	0.00	0.00	0.21	0.00	0.00	2.35	0.00	0.00	0.00	0.00	*
17	15J39 15J40	Grit Starch Separator Screens	0.00	0.00	0.00	0.48	0.00	0.00	0.41	0.00	0.00	0.00	0.00	*
452	15V263	Dent 1 Starch Storage Tank	0.00	0.00	0.00	0.44	0.00	0.00	0.44	0.00	0.00	0.00	0.00	
462	18C101	Powdered Carbon Transfer Receiver	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*
408A 408B	19D304	Starch Roll Dryer #304	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	
409A 409B	19D305	Starch Roll Dryer #305	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	
	52D201	Agglomerator #2 (includes 2500scfm throat cooling air)	6.52	11.24	8.37	0.05	3.50	7.01	0.47	0.00	0.00	0.00	10,249	
361	52Y202	Agglomerator #2 External Fluid Bed	1.88	1.88	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	52C207/ 56Z700	Agglomerator #2 Fines Recycle / #7 Bag Packer	0.38	0.38	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
401	52V250	Product Bin #250	0.43	0.43	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
402	52V251	Product Bin #251												
388	54D450	Starch Flash Dryer #4	19.62	28.32	21.78	0.10	7.01	14.02	8.14	0.00	0.00	0.00	20,499	
389	54V470	Starch Densifier Mill Surge Hopper	0.07	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
385	54V440	Product Bin #440												
386	54V441	Product Bin #441												
387	54V4CC	Product Bin #4CC	0.56	0.56	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
107	7V48	Product Bin #3												
108	7V49	Product Bin #2												
109	7V50	Product Bin #1												
380	56F601 56V600 56Z600 56C630 56F602	Packer #6 Product Receiver; Packer Head Hopper; Bag Packer; and Reprocess Bag Dump Transfer Line	0.92	0.92	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
381	56 Bldg Conv 56V630 52 Bldg Conv 52Z245/ 52V245 56C604	Packer #6 House Dust Collector; Aspiration of bag conveying belts, ultrasonic sealers; Aspiration of reprocess bag dump (56V630); Aspiration of Agglomerator #2 bag packer conveying equipment; Agglomerator Tote Bagger #5 and Head Hopper; Screenings Transfer System	2.35	2.35	1.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
163A	18F57	Precoat Vacuum Filter	0.00	0.00	0.00	0.44	0.00	0.00	0.88	0.00	0.00	0.00	0.00	
161A	18C57	Precoat Filter Vacuum Pump	0.00	0.00	0.00	0.44	0.00	0.00	0.88	0.00	0.00	0.00	0.00	
17	18V513	Atmospheric Jet Conversion Flash Chamber for Maltodextrin	0.00	0.00	0.00	7.23	0.00	0.00	3.29	0.72	0.00	0.00	0.00	*
460	18V230	Enzyme Liquefaction Reactor	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	
461	18V231	Enzyme Liquefaction Reactor	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	
50	45V298	Propylated Starch Reactor	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.00	
417	45V298-PR	Propylene Oxide Reactor Press. Relief Vent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
417	45C298	Propylene Oxide Reactor Vent Fan	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	
50	45V299	Propylated Starch Reactor	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.00	
418	45V299-PR	Propylene Oxide Reactor Press. Relief Vent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
418	45C299	Propylene Oxide Reactor Vent Fan	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	
455	18V274	Oxidized Starch Reactor	0.00	0.00	0.00	0.00	0.00	0.00	5.71	0.00	0.00	0.00	0.00	
456	18V108	Sodium Bisulfite Storage Tank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
457	18V109	Sodium Chlorite Storage Tank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
419	54V401	Flash 4 Slurry Hold Tank	0.00	0.00	0.00	0.44	0.00	0.00		0.00	0.00	0.00	0.00	
420	54V403	Flash 4 Larox Filter Feed Tank	0.00	0.00	0.00	0.00	0.00	0.00	Emissions included in Starch Flash Dryer #4 (54D450)	0.00	0.00	0.00	0.00	
421	54F421 54F422 54V421	Flash 4 Larox Filters and Air Release Tank	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
423	54F4MM 54V4MM	Flash 4 Larox Filter and Air Release Tank	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
163B	18F53	19 Rolls Rotary Vacuum Filter	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	
161B	18C233	19 Rolls Rotary Filter Vacuum Pump	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
		TOTAL	**32.74**	**46.17**	**33.77**	**10.69**	**10.51**	**21.02**	**29.75**	**0.72**	**0.00**	**0.00**	**30,748**	

Note: Cells above highlighted in gray font reflect uncontrolled emissions. These units vent to a scrubber controlling multiple processes. Therefore, the controlled emissions of these units can not be verified.

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Existing Emissions Units

Baseline Actual Emissions (tpy)

Group #	Unit ID	Group/Unit Description	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs
Gr: 001	8C300	Corn Receiving & Handling	0.78	1.49	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: RTO	48F201/48 F202	RTO Exhaust (includes process emissions from 21D501, 21D301, 21D401, 48D101)	1.07	12.28	11.92	10.30	See Gr: 003, 6,7,8		10.87	0.10	0.00	0.00	See Gr: 003, 6,7,8
Gr: 002	21D501	Fiber Flash Dryer	Included in Gr: RTO EXH										
Gr: 003	21B501	Fiber Flash Dryer NG Burner	0.34	0.93	0.93	0.09	10.55	46.08	0.85	0.00	0.00	0.00	16,676
Gr: 004	21D301	Feed Steam Tube Dryer	Included in Gr: RTO EXH										
Gr: 005	21D401	Germ Steam Tube Dryer											
Gr: 006	48D101	Gluten Flash Dryer					5.14	4.32	Included in Gr: RTO EXH		0.00	0.00	6,098
Gr: 007	48F201	RTO #1 Burner	Included in Gr: RTO EXH				0.82	0.69			0.00	0.00	973
Gr: 008	48F202	RTO #2 Burner					0.82	0.69			0.00	0.00	973
Gr: 010	21G351, 35	Feed Mill Aspiration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 011	21C36	Meal Transfer to Bin	3.50	3.50	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 019	8V62	Meal Bin	0.17	0.17	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 020	8V63	Meal Bin	0.17	0.17	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 021	8V53	Germ Bin	0.18	0.18	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 022	8V54	Germ Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 023	12C39	Co-Product Transfer to Loadout	0.88	0.88	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 024	12C40	Rail Loadout Aspiration	2.11	2.11	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 026	Multiple	Steep, Mill & Feed house SO2 Ventilation	0.00	0.00	0.00	2.36	0.00	0.00	107.46	0.00	0.00	0.00	0.00
Gr: 031	9V31	Filter-Aid Silo	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 032	18C18	Filter-Aid Transfer	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 033	9V144	Soda Ash Storage Tank	0.12	0.12	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 034	9C30	Carbon Unloading to Silo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 037	45V250	Sodium Sulfate Bin	0.13	0.13	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 195	Multiple	Starch Modification Propylene Oxide (P.O.) Potentially Affected Emissions Unit Group	0.00	0.00	0.00	0.00	0.00	0.00	10.41	0.00	0.00	0.00	0.00
Gr: 995	N/A	Plant Fugitive Emissions	14.48	2.98	0.70	8.68	0.00	0.00	21.96	0.00	0.00	0.00	0.00
Gr: 102	31B1	CoGen Boiler	19.19	63.38	53.79	376.96	277.67	8.40	2.25	3.77	0.20	0.00	159,633
Gr: 096,7	11B1, 2, 3	Natural Gas Boilers 11B1, 11B2, 11B3	0.08	0.32	0.32	0.03	11.77	3.53	0.23	0.00	0.00	0.00	5,018
		TOTAL	**43.22**	**88.66**	**72.50**	**398.42**	**306.76**	**63.69**	**154.03**	**3.87**	**0.20**	**0.00**	**189,372**

Projected Actual Emissions (tpy)

Group #	Unit ID	Group/Unit Description	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs
Gr: 001	8C300	Corn Receiving & Handling	0.96	1.83	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: RTO EXH	48F201/48 F202	RTO Exhaust (includes process emissions from 21D501, 21D301, 21D401, 48D101)	1.31	15.04	14.60	12.61	See Gr: 003, 6,7,8		13.31	0.13	0.00	0.00	See Gr: 003, 6,7,8
Gr: 002	21D501	Fiber Flash Dryer	Included in Gr: RTO EXH										
Gr: 003	21B501	Fiber Flash Dryer NG Burner	0.42	1.13	1.13	0.11	12.86	56.18	1.04	0.00	0.00	0.00	20,331
Gr: 004	21D301	Feed Steam Tube Dryer	Included in Gr: RTO EXH										
Gr: 005	21D401	Germ Steam Tube Dryer											
Gr: 006	48D101	Gluten Flash Dryer					6.33	5.32	Included in Gr: RTO EXH		0.00	0.00	7,514
Gr: 007	48F201	RTO #1 Burner	Included in Gr: RTO EXH				1.00	0.84			0.00	0.00	1,192
Gr: 008	48F202	RTO #2 Burner					1.08	0.91			0.00	0.00	1,290
Gr: 010	21G351, 35	Feed Mill Aspiration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 011	21C36	Meal Transfer to Bin	4.31	4.31	2.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 019	8V62	Meal Bin	0.21	0.21	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 020	8V63	Meal Bin	0.21	0.21	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 021	8V53	Germ Bin	0.22	0.22	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 022	8V54	Germ Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 023	12C39	Co-Product Transfer to Loadout	1.07	1.07	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 024	12C40	Rail Loadout Aspiration	2.20	2.20	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 026	Multiple	Steep, Mill & Feed house SO2 Ventilation	0.00	0.00	0.00	2.89	0.00	0.00	118.26	0.00	0.00	0.00	0.00
Gr: 031	9V31	Filter-Aid Silo	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 032	18C18	Filter-Aid Silo	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 033	9V144	Soda Ash Storage Tank	0.14	0.14	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 034	9C30	Carbon Unloading to Silo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 037	45V250	Sodium Sulfate Bin	0.14	0.14	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 195	Multiple	Starch Modification Propylene Oxide (P.O.) Potentially Affected Emissions Unit Group	0.00	0.00	0.00	0.00	0.00	0.00	14.44	0.00	0.00	0.00	0.00
Gr: 995	N/A	Plant Fugitive Emissions	17.05	3.52	0.83	10.63	0.00	0.00	26.90	0.00	0.00	0.00	0.00
Gr: 102	31B1	CoGen Boiler	1.80	7.20	7.20	0.57	96.68	67.68	5.21	0.01	0.00	0.00	113,117
Gr: 096,7	11B1, 2, 3	Natural Gas Boilers 11B1, 11B2, 11B3	0.10	0.39	0.39	0.03	14.42	4.33	0.28	0.00	0.00	0.00	6,146
		TOTAL	**30.17**	**37.66**	**29.88**	**26.85**	**132.37**	**135.25**	**179.45**	**0.13**	**0.00**	**0.00**	**149,590**

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Excludable Emissions (tpy)

Group #	Unit ID	Group/Unit Description	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs
Gr: 001	8C300	Corn Receiving & Handling	0.06	0.12	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: RTO EXH	48F201/48F	RTO Exhaust (includes process emissions from 21D501, 21D301, 21D401, 48D101)	0.09	0.99	0.96	0.83	See Gr: 003, 6,7,8		0.88	0.01	0.00	0.00	See Gr: 003, 6,7,8
Gr: 002	21D501	Fiber Flash Dryer	Included in Gr: RTO EXH										
Gr: 003	21B501	Fiber Flash Dryer NG Burner	0.03	0.08	0.08	0.01	0.92	4.00	0.07	0.00	0.00	0.00	1,447
Gr: 004	21D301	Feed Steam Tube Dryer	Included in Gr: RTO EXH										
Gr: 005	21D401	Germ Steam Tube Dryer											
Gr: 006	48D101	Gluten Flash Dryer					0.30	0.26	Included in Gr: RTO EXH		0.00	0.00	361
Gr: 007	48F201	RTO #1 Burner	Included in Gr: RTO EXH				0.07	0.06			0.00	0.00	78.6
Gr: 008	48F202	RTO #2 Burner					0.10	0.08			0.00	0.00	114
Gr: 010	21G351, 35	Feed Mill Aspiration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 011	21C36	Meal Transfer to Bin	0.21	0.21	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 019	8V62	Meal Bin	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 020	8V63	Meal Bin	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 021	8V53	Germ Bin	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 022	8V54	Germ Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 023	12C39	Co-Product Transfer to Loadout	0.07	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 024	12C40	Rail Loadout Aspiration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 026	Multiple	Steep, Mill & Feed house SO2 Ventilation	0.00	0.00	0.00	0.19	0.00	0.00	8.67	0.00	0.00	0.00	0.00
Gr: 031	9V31	Filter-Aid Silo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 032	18C18	Filter-Aid Silo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 033	9V144	Soda Ash Storage Tank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 034	9C30	Carbon Unloading to Silo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 037	45V250	Sodium Sulfate Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 195	Multiple	Starch Modification Propylene Oxide (P.O.) Potentially Affected Emissions Unit Group	0.00	0.00	0.00	0.00	0.00	0.00	4.03	0.00	0.00	0.00	0.00
Gr: 995	N/A	Plant Fugitive Emissions	0.92	0.19	0.04	0.70	0.00	0.00	1.77	0.00	0.00	0.00	0.00
Gr: 102	31B1	CoGen Boiler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 096,7	11B1, 2, 3	Natural Gas Boilers 11B1, 11B2, 11B3	0.01	0.03	0.03	0.00	0.95	0.29	0.02	0.00	0.00	0.00	405
		TOTAL	1.42	1.72	1.35	1.73	2.33	4.67	15.45	0.01	0.00	0.00	2,405

Project Emissions Increase (tpy)

Group #	Unit ID	Group/Unit Description	PM10 & PT PM	PM10 & PT PM_{10}	PM2.5 $PM_{2.5}$	SO2 SO_2	NOx NO_x	CO CO	VOC VOC	H2SO4 H_2SO_4	F	Pb	GHGs
Gr: 001	8C300	Corn Receiving & Handling	0.11	0.21	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: RTO EXH	48F201/48F	RTO Exhaust (includes process emissions from 21D501, 21D301, 21D401, 48D101)	0.15	1.77	1.72	1.48	See Gr: 003, 6,7,8		1.57	0.01	0.00	0.00	See Gr: 003, 6,7,8
Gr: 002	21D501	Fiber Flash Dryer	Included in Gr: RTO EXH										
Gr: 003	21B501	Fiber Flash Dryer NG Burner	0.05	0.12	0.12	0.01	1.40	6.10	0.11	0.00	0.00	0.00	2,208
Gr: 004	21D301	Feed Steam Tube Dryer	Included in Gr: RTO EXH										
Gr: 005	21D401	Germ Steam Tube Dryer											
Gr: 006	48D101	Gluten Flash Dryer					0.89	0.75	Included in Gr: RTO EXH		0.00	0.00	1,055
Gr: 007	48F201	RTO #1 Burner	Included in Gr: RTO EXH				0.12	0.10			0.00	0.00	140.3
Gr: 008	48F202	RTO #2 Burner					0.17	0.14			0.00	0.00	203
Gr: 010	21G351, 35	Feed Mill Aspiration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 011	21C36	Meal Transfer to Bin	0.61	0.61	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 019	8V62	Meal Bin	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 020	8V63	Meal Bin	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 021	8V53	Germ Bin	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 022	8V54	Germ Bin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 023	12C39	Co-Product Transfer to Loadout	0.13	0.13	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 024	12C40	Rail Loadout Aspiration	0.10	0.10	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 026	Multiple	Steep, Mill & Feed house SO2 Ventilation	0.00	0.00	0.00	0.34	0.00	0.00	2.13	0.00	0.00	0.00	0.00
Gr: 031	9V31	Filter-Aid Silo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 032	18C18	Filter-Aid Silo	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 033	9V144	Soda Ash Storage Tank	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 034	9C30	Carbon Unloading to Silo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 037	45V250	Sodium Sulfate Bin	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 195	Multiple	Starch Modification Propylene Oxide (P.O.) Potentially Affected Emissions Unit Group	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gr: 995	N/A	Plant Fugitive Emissions	1.64	0.34	0.08	1.25	0.00	0.00	3.16	0.00	0.00	0.00	0.00
Gr: 102	31B1	CoGen Boiler	0.00	0.00	0.00	0.00	0.00	59.28	2.96	0.00	0.00	0.00	0.00
Gr: 096,7	11B1, 2, 3	Natural Gas Boilers 11B1, 11B2, 11B3	0.01	0.05	0.05	0.00	1.70	0.51	0.03	0.00	0.00	0.00	723
		TOTAL	**2.92**	**3.45**	**2.61**	**3.09**	**4.27**	**66.88**	**9.97**	**0.02**	**0.00**	**0.00**	**4,330**

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Net Emissions Increases and Decreases

Project	Permit #	Date	Description	Emissions Increase/Decrease (tpy) PM	PM_{10}	$PM_{2.5}$	Reference / Notes
1	27720 & 29633	5/8/2009 & 11/10/2010	Operational change to produce oxidized starch on nine existing starch reactors	0.03	0.03	0.03	[1]
2	30823	10/31/2011	41 Bldg. house vacuum system	0.16	0.16	0.16	[2]
3	TBD	TBD	CoGen (coal) boiler natural gas conversion	-19.23	-61.27	-50.75	[3]
4	TBD	TBD	Special starch belt dryer system shutdown	-14.40	-14.40	-9.48	[4]
			Total	-33.44	-75.47	-60.04	

References/Notes

[1] PTE emissions increase as documented in permit record
[2] = 0.01 gr/scf * 500 acfm * (460 + 68) / (460 + 150) * 60 min/hr * lb/7000 gr * 8760 hrs/yr / 2000 lb/ton; proposed limit
[3] See sheets: Coal Blr Calc Summary & Coal Blr Calc Detail
[4] See sheet: Belt Dryer Sys Shutdown

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Wet Milling and Yield Improvement New Emissions Units

A. New Emissions Unit Identification

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device	Control Device ID	Comments
17	21F5	Gluten Vacuum Filter	Scrubber	15F401	New filter
17	21C105	Gluten Filter Vacuum Pump	Scrubber	15F401	New pump
17	15J39 15J40	Grit Starch Separator Screens	Scrubber	15F401	2 new screens added to Screens 15J19 and 15J19 to serve new third grind mill. Mill replaces smaller third
452	15V263	Dent 1 Starch Storage Tank	None	None	Insignificant Activity

B. PTE Calculations

Data Element			Data Designation	Value		Reference/Calculation
Molecular Weights						
	SO2		[A]	64	lb/mol	
	Ethanol		[B]	46	lb/mol	
Molar Volume			[C]	385.3	ft^3/mol	68 °F; 1 atm.
Gluten Filter Test Data						
	Temperature		[D]	56	°F	2/28/2008 source test
	Flow Rate		[E]	3,221	acfm	2/28/2008 source test
	Flow Rate		[F]	3,296	scfm	= [E] * (460 + 68) / (460 + [D])
	SO2 Concentration		[G]	6	ppm	Conservative value from 1996 test
	Ethanol Concentration		[H]	45	ppm	2/28/2008 source test
Gluten Filter Vacuum Pump Test Data						
	Temperature		[I]	118	°F	2/28/2008 source test
	Flow Rate		[J]	891	acfm	2/28/2008 source test
	Flow Rate		[K]	814	scfm	= [E] * (460 + 68) / (460 + [D])
	SO2 Concentration		[L]	6	ppm	Conservative value from 1996 test
	Ethanol Concentration		[M]	92	ppm	2/28/2008 source test
Third Grind Screen Test Data						
	Flow Rate		[N]	354	scfm	Testing performed by Tate & Lyle on 15J15 & 15J19 screens
	SO2 Concentration		[O]	31.0	ppm	Testing performed by Tate & Lyle on 15J15 & 15J19 screens
	Ethanol Concentration		[P]	37.3	ppm	Testing performed by Tate & Lyle on 15J15 & 15J19 screens
Emission Rates Before Control						
	Gluten Filter					
		SO2	[S]	0.86	tons/yr	= [G] / 1 E+06 * [F] / [C] * [A] * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
		VOC	[T]	4.65	tons/yr	= [H] / 1 E+06 * [F] / [C] * [B] * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
	Gluten Filter Vacuum Pump					
		SO2	[U]	0.21	tons/yr	= [L] / 1 E+06 * [K] / [C] * [A] * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
		VOC	[V]	2.35	tons/yr	= [M] / 1 E+06 * [K] / [C] * [B] * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
	Third Grind Mill Screens					
		SO2	[W]	0.48	tons/yr	= [O] / 1 E+06 * [N] / [C] * [A] * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
		VOC	[X]	0.41	tons/yr	= [P] / 1 E+06 * [N] / [C] * [B] * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
Scrubber 15F401 Minimum Removal Efficiency						
	SO2		[Q]	90%	%	Existing permit condition
	VOC		[R]	25%	%	Existing permit condition
Emission Rates After Control						
	Gluten Filter					
		SO2	[S]	0.09	tons/yr	= [G] / 1 E+06 * [F] / [C] * [A] * (1 - [Q]) * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
		VOC	[T]	3.49	tons/yr	= [H] / 1 E+06 * [F] / [C] * [B] * (1 - [R]) * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
	Gluten Filter Vacuum Pump					
		SO2	[U]	0.02	tons/yr	= [L] / 1 E+06 * [K] / [C] * [A] * (1 - [Q]) * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
		VOC	[V]	1.76	tons/yr	= [M] / 1 E+06 * [K] / [C] * [B] * (1 - [R]) * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
	Third Grind Mill Screens					
		SO2	[W]	0.05	tons/yr	= [O] / 1 E+06 * [N] / [C] * [A] * (1 - [Q]) * 60 min/hr * 8760 hrs/hr / 2000 lb/ton
		VOC	[X]	0.31	tons/yr	= [P] / 1 E+06 * [N] / [C] * [B] * (1 - [R]) * 60 min/hr * 8760 hrs/hr / 2000 lb/ton

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Starch Expansion New Emissions Units

A. Process Emissions

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		Notes	PM			PM10			PM2.5: PM10 Ratio [9]	PM2.5			SO2		VOC		H2SO4	
						acfm [1]	scfm [2]		gr/scf [3]	lb/hr [4]	tpy [5]	gr/scf [6]	lb/hr [7]	tpy [8]		gr/scf [10]	lb/hr [11]	tpy [12]	tpy	Ref. / Calc.	tpy	Ref. / Calc.	tpy	Ref. / Calc.
Refinery Area																								
462	18C101	Powdered Carbon Transfer Receiver	Bagfilter	18F101	150	120	104		0.005	0.00	0.02	0.005	0.00	0.02	0.54762	0.0027	0.002	0.01						
19 BLDG. ROLL DRYER EXPANSION AND 41 BLDG.																								
408A 408B	19D304	Starch Roll Dryer #304	None	None	110	11,400	10,560														0.03	[15]		
409A 409B	19D305	Starch Roll Dryer #305	None	None	110	11,400	10,560														0.03	[15]		
AGGLOMERATION #2 SYSTEM																								
361	52D201	Agglomerator #2 (includes 2500scfm throat cooling air)	4 Product Cyclones to Bagfilter	52F211-52F214/ 52F202	245	75,338	56,423		0.003	1.45	6.35	0.005	2.42	10.59	0.54762	0.0036	1.762	7.72						
	52Y202	Agglomerator #2 External Fluid Bed			200	12,500	10,000		0.005	0.43	1.88	0.005	0.43	1.88	0.54762	0.0027	0.235	1.03						
	52C207/ 56Z700	Agglomerator #2 Fines Recycle / #7 Bag Packer			245	2,670	2,000		0.005	0.09	0.38	0.005	0.09	0.38	0.54762	0.0027	0.047	0.21						
401	52V250	Product Bin #250	Bagfilter	52F250	110	2,500	2,316	[13]	0.005	0.10	0.43	0.005	0.10	0.43	0.54762	0.0027	0.054	0.24						
402	52V251	Product Bin #251	Bagfilter	52F251	110	2,500	2,316		0.005	0.10		0.005	0.10		0.54762	0.0027	0.054							
FLASH DRYER #4 SYSTEM																								
388	54D450	Starch Flash Dryer #4	6 Product Cyclones to Scrubber	54F451-54F456/ 54F460	105	110,000	102,796		0.005	4.41	19.30	0.007	6.17	27.01	0.66092	0.0053	4.674	20.47			7.20	[16]		
389	54V470	Starch Densifier Mill Surge Hopper	Bagfilter	54F471	140	400	352		0.005	0.02	0.07	0.005	0.02	0.07	0.66092	0.0033	0.010	0.04						
385	54V440	Product Bin #440	Bagfilter	54F440	70	3,000	2,989	[14]	0.005	0.13	0.56	0.005	0.13	0.56	0.54762	0.0027	0.070	0.31						
386	54V441	Product Bin #441	Bagfilter	54F441	70	3,000	2,989		0.005	0.13		0.005	0.13		0.54762	0.0027	0.070							
387	54V4CC	Product Bin #4CC	Bagfilter	54F4CC	70	3,000	2,989		0.005	0.13		0.005	0.13		0.54762	0.0027	0.070							
107	7V48	Product Bin #3	Bagfilter	7F71	70	3,000	2,989		0.005	0.13		0.005	0.13		0.54762	0.0027	0.070							
108	7V49	Product Bin #2	Bagfilter	7F72	70	3,000	2,989		0.005	0.13		0.005	0.13		0.54762	0.0027	0.070							
109	7V50	Product Bin #1	Bagfilter	7F73	70	3,000	2,989		0.005	0.13		0.005	0.13		0.54762	0.0027	0.070							
PACKER #6 SYSTEM																								
380	56F601 56V600 56Z600 56C630	Packer #6 Product Receiver; Packer Head Hopper; Bag Packer; and Reprocess Bag Dump Transfer Line	Bagfilter	56F601	80	5,000	4,889		0.005	0.21	0.92	0.005	0.21	0.92	0.54762	0.0027	0.115	0.50						
381	56F602 56 Bldg Conv 56V630 52 Bldg Conv 52Z245/ 52V245 56C604	Packer #6 House Dust Collector; Aspiration of bag conveying belts, ultrasonic sealers; Aspiration of reprocess bag dump (56V630); Aspiration of Agglomerator #2 bag packer conveying equipment; Agglomerator Tote Bagger #5 and Head Hopper; Screenings Transfer System	Bagfilter	56F602	80	16,000	15,644		0.004	0.54	2.35	0.004	0.54	2.35	0.54762	0.0022	0.294	1.29						
SYRUP REFINERY																								
163A	18F57	Precoat Vacuum Filter	None	None															0.44	[17]	0.88	[18]		
161A	18C57	Precoat Filter Vacuum Pump	None	None															0.44	[17]	0.88	[18]		
17	18V513	Atmospheric Jet Conversion Flash Chamber for Maltodextrin	Scrubber	15F401															7.23	[19]	3.29	[20]	0.07	[21]
460	18V230	Enzyme Liquefaction Reactor	None	None																	0.44	[22]		
461	18V231	Enzyme Liquefaction Reactor	None	None																	0.44	[22]		

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

STARCH MODIFICATION																								
50	45V298	Propylated Starch Reactor	Scrubber	45F212																	0.52	[23]		
417	45V298-PRV	Propylene Oxide Reactor Press. Relief Vent	None	None																				
417	45C298	Propylene Oxide Reactor Vent Fan	None	None																	0.06	[23]		
50	45V299	Propylated Starch Reactor	Scrubber	45F212																	0.52	[23]		
418	45V299-PRV	Propylene Oxide Reactor Press. Relief Vent	None	None																				
418	45C299	Propylene Oxide Reactor Vent Fan	None	None																	0.06	[23]		
455	18V274	Oxidized Starch Reactor	None	None																	5.71	[24]		
456	18V108	Sodium Bisulfite Storage Tank	None	None																				
457	18V109	Sodium Chlorite Storage Tank	None	None																				
419	54V401	Flash 4 Slurry Hold Tank	None	None															0.44	[25]	Potential VOC emissions from these units included in Starch Flash Dryer # 4 (54D450) PTE estimate; based on system P.O. balance			
420	54V403	Flash 4 Larox Filter Feed Tank	None	None																				
421	54F421 54F422 54V421	Flash 4 Larox Filters and Air Release Tank	None	None																				
423	54F4MM 54V4MM	Flash 4 Larox Filter and Air Release Tank	None	None																				
163B	18F53	19 Rolls Rotary Vacuum Filter	None	None																	0.44	[26]		
161B	18C233	19 Rolls Rotary Filter Vacuum Pump	None	None																				
TOTALS											**32.25**			**44.21**				**31.81**	**8.54**		**20.48**		**0.07**	

References / Calculation Detail

[1] Design flow rate, acfm
[2] Design flow rate, scfm
[3] Proposed potential/allowable PM concentration, filterable only
[4] = [3] x [2] x 60 min/hr / 7,000 gr/lb
[5] = [4] x 8760 hrs/yr / 2,000 lb/ton
[6] Proposed potential/allowable PM concentration, filterable + condensable
[7] = [6] x [2] x 60 min/hr / 7,000 gr/lb
[8] = [7] x 8760 hrs/yr / 2,000 lb/ton
[9] Particle size fraction from EPA PM database
[10] Proposed potential/allowable PM concentration, filterable + condensable
[11] = [6] x [2] x 60 min/hr / 7,000 gr/lb
[12] = [7] x 8760 hrs/yr / 2,000 lb/ton
[12] = Propylene oxide (P.O.) emissions - See
[13] Only one of the Agglomeration 2 Product Bins (241 and 242) can operate at a time
[14] The three belt dryer bins (Bins #1, #2, and #3) have been included as part of the Flash Dryer #4 System. They are existing units but will be permitted with a higher airflow and lower grain loading to match the other 3 new bins. Only one of the six bins can operate at a time since product is received directly from the flash dryer.
[15] = 6 lbs P.O./100,000 lb propylated starch (c.w.) * 1 E+06 lbs/yr dryer P.O. starch production capacity / 2,000 lb/ton
[16] = 6 lbs P.O./100,000 lb propylated starch (c.w.) * 250 E+06 lbs/yr dryer P.O. starch production (proposed limit) / 2,000 lb/ton
[17] Conservative estimate based on Tate & Lyle test data from similar unit; = 0.10 lb/hr * 8,760 hrs/yr / 2,000 lb/ton
[18] Conservative estimate based on Tate & Lyle test data from similar unit; = 0.20 lb/hr * 8,760 hrs/yr / 2,000 lb/ton
[19] = 16.5 lb/hr @ 100 gpm * (1 - 90% scrubber SO2 control) * 8,760 hrs/yr / 2,000 lb/ton
[20] = 1 lb/hr @ 100 gpm * (1 - 25% scrubber SO2 control) * 8,760 hrs/yr / 2,000 lb/ton
[21] Conservatively estimated as 1% of SO2 emission rate (SO2 emission rate * 0.01)
[23] See sheet: P.O. Bal New Reactors
[24] See sheet: Ox Starch Reactor Detail
[25] Conservative estimate based on Tate & Lyle test data from similar unit; = 0.10 lb/hr * 8,760 hrs/yr / 2,000 lb/ton
[26] Conservative estimate based on Tate & Lyle test data from similar unit; = 0.10 lb/hr * 8,760 hrs/yr / 2,000 lb/ton

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

B. Natural Gas Combustion Emissions

Data Element	Data Designation	Value		Reference/Calculation						
Design Heat Input Capacity, Agglomerator #2	[A]	20	MMBtu/hr	Burner design specification						
Design Heat Input Capacity, Starch Flash Dryer #4	[B]	40	MMBtu/hr	Burner design specification						
Natural Gas HHV	[C]	1,020	Btu/cf	Default value from AP-42 Chapter 1.4 (7/98)						
Emission Factors (natural gas combustion)										
PM Filterable	[D]	0.0019	lb/MMBtu	AP-42, Table 1.4-2 (7/98)						
PM Condensable	[E]	0.0056	lb/MMBtu	AP-42, Table 1.4-2 (7/98)						
PM10	[F]	0.0075	lb/MMBtu	AP-42, Table 1.4-2 (7/98)						
PM2.5	[G]	0.0075	lb/MMBtu	AP-42, Table 1.4-2 (7/98)						
SO2	[H]	5.88E-04	lb/MMBtu	AP-42, Table 1.4-2 (7/98)						
NOx	[I]	0.04	lb/MMBtu	Burner design specification						
CO	[J]	0.08	lb/MMBtu	Burner design specification						
VOC	[K]	0.0054	lb/MMBtu	AP-42, Table 1.4-2 (7/98)						
GHGs (CO2e)	[L]	117.0	lb/MMBtu	40 CFR 98 Subpart C, Tables C-1 and C-2						
Potential Emissions, Agglomerator #2										
PM	[M]	0.16	tpy	[D]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
PM10	[N]	0.65	tpy	[F]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
PM2.5	[O]	0.65	tpy	[G]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
SO2	[P]	0.05	tpy	[H]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
NOx	[Q]	3.50	tpy	[I]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
CO	[R]	7.01	tpy	[J]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
VOC	[S]	0.47	tpy	[K]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
H2SO4	[T]	5.15E-04	tpy	[P]	x	0.01				
GHGs (CO2e)	[U]	10,249	tpy	[L]	x	[A]	x	8,760 hrs/yr	/	2,000 lb/ton
Potential Emissions, Starch Flash Dryer #4										
PM	[M]	0.33	tpy	[D]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton
PM10	[N]	1.31	tpy	[F]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton
PM2.5	[O]	1.31	tpy	[G]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton
SO2	[P]	0.10	tpy	[H]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton
NOx	[Q]	7.01	tpy	[I]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton
CO	[R]	14.02	tpy	[J]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton
VOC	[S]	0.94	tpy	[K]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton
H2SO4	[T]	1.03E-03	tpy	[P]	x	0.01				
GHGs (CO2e)	[U]	20,499	tpy	[L]	x	[B]	x	8,760 hrs/yr	/	2,000 lb/ton

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Existing Affected Emissions Unit ATPA Calculations

Group or Unit #	Group or Process Unit Description & Calculation Basis	Pollutant or Other	Emission Factor	Units	BAE Calculation Text (unless otherwise noted)	Calc'n Result 2012	Calc'n Result 2011	Units	2011/2012 BAE (tpy)	PAE (tpy)	EE (tpy)	PEI (tpy)	PAE, PTE and EE Calc Text
General Calculation Inputs													
									Production based, not emissions				
Grind	Daily average grind	bu/d			(Annual grind) / (d/yr) {ignore leap year}	69,276	69,519	bu/d	69,398	85,000	5,602	10,000	Projected grind (bu/d); See: ATPA Prod Inputs
Grind	Annual grind	mmbu/yr			Annual grind from accounting reports	25.29	25.37	mmbu/yr	25.33	31.03	2.04	3.65	See sheet: ATPA Prod Inputs
Gr: 001	**8C300, Corn Receiving & Handling**												
Unit: 001	Stack: 433; 8F300 Dust Collector												
Pollutants	PM EF = average of 11/2/2007 and 10/10/2012 source test results (filterable only)	PM	0.0617	lb/kbu	tons/yr = (Emission Factor, lb/kbu) (mmbu/yr) (1000 kbu/mmbu) (1/2000 lb/ton)	0.780	0.783	tons/yr	0.781	0.957	0.063	0.113	PAE = BAE * (projected grind increase)
	PM10 EF = average of above source test results (filterable + condensable)	PM10	0.1177	lb/kbu		1.488	1.493	tons/yr	1.491	1.826	0.120	0.215	EE = (PAE - BAE) * (excludable portion of grind increase); if > PAE - BAE, EE = PAE - BAE
	PM2.5 = PM Filt. * Ratio for SCC = 30200751, Ratio = 0.12500, + average condensable from above test results (0.0560 lb/kbu)	PM2.5	0.0637	lb/kbu		0.806	0.808	tons/yr	0.807	0.988	0.065	0.116	PEI = PAE - BAE - EE See sheet: ATPA Prod Inputs for definition of terms
Gr: RTO EXH													
Gr: 002	**21D501 Fiber Flash Dryer**												
Gr: 004	**21D301 Feed Steam Tube Dryer**												
Gr: 005	**21D401 Germ Steam Tube Dryer**												
Gr: 006	**48D101 Gluten Flash Dryer**												
Unit: 001	Stack: 17; RTO (48F201/48F202) Outlet												
Process Rates	Annual grind					25.286	25.375	mmbu/yr					
Pollutants	PM EF = average of 1/10/2008, 12/12-13/2012 RTO outlet source test results (filterable only)	PM	0.0845	lb/kbu	tons/yr = (Emission Factor, lb/kbu) (mmbu/yr) (1000 kbu/mmbu) (1/2000 lb/ton)	1.068	1.072	tons/yr	1.070	1.311	0.086	0.154	PAE = BAE * (projected grind increase)
	PM10 EF = average of above source test results (filterable + condensable)	PM10	0.9698	lb/kbu		12.261	12.304	tons/yr	12.283	15.044	0.992	1.770	EE = (PAE - BAE) * (excludable portion of grind increase); if > PAE - BAE, EE = PAE - BAE
	PM2.5 = PM Filt. * Ratio. For SCC = 30200754, Ratio = 0.66092, + average condensable from above test results (0.8851 lb/kbu)	PM2.5	0.9409	lb/kbu		11.896	11.938	tons/yr	11.917	14.596	0.962	1.717	PEI = PAE - BAE - EE See sheet: ATPA Prod Inputs for definition of terms
	SO2 EF = 12/12-13/2012 RTO outlet source test result	SO2	0.8132	lb/kbu		10.281	10.317	tons/yr	10.299	12.615	0.831	1.484	
	VOC EF = average of 1/10/2008, 3/26/2008, 12/12-13/2012, 3/15/2013, 6/12/2013 RTO outlet source test results, adjusted to limit as necessary	VOC	0.8583	lb/kbu		10.851	10.889	tons/yr	10.870	13.314	0.878	1.566	
	H2SO4 EF = SO2 EF x 0.01	H2SO4	0.0081	lb/kbu		0.103	0.103	tons/yr	0.103	0.126	0.008	0.015	
Gr: 003	**21B501 Fiber Flash Dryer NG Burner**												
Unit: 001	Stack: 17; 21B501 SSD, Nat. Gas Combustion												
Process Rates	Measured Natural Gas Usage for 21D501 SSD Dryer (data)	Total NG for the year			mmcf/yr = (Total Natural Gas Used 21D501 (data) kcf) (1/1000 kcf/mmcf)	223.18	198.96	mmcf/yr					
					mmBtu/yr = mmcf/yr * 1020 mmBtu/mmcf	227,643	202,936	mmBtu/yr					
Pollutants	CO EF = average of 1/11/2008, 8/25-27/2009 source test results	CO	0.3222	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	36.673	32.693	tons/yr	34.683	42.286	3.010	4.593	PAE = BAE * (projected fiber increase)
	NOx EF = average of 1/11/2008, 12/11/2012 source test results	NOX	0.0658	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	7.489	6.677	tons/yr	7.083	8.636	0.615	0.938	EE = (PAE - BAE) * (excludable portion of fiber increase); if > PAE - BAE, EE = PAE - BAE
	PM EF = average of 1/11/2008, 8/25-27/2009, 12/11/2012 source test results (filterable only)	PM	0.0024	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.273	0.244	tons/yr	0.258	0.315	0.022	0.034	PEI = PAE - BAE - EE See sheet: ATPA Prod Inputs for definition of terms
	PM10 EF = average of above source test results (filterable + condensable)	PM10	0.0065	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.740	0.660	tons/yr	0.700	0.853	0.061	0.093	
	PM2.5 = PM10 * Ratio. For SCC = 30200754, Ratio = 1.000	PM2.5	0.0065	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.740	0.660	tons/yr	0.700	0.853	0.061	0.093	
	From AP42: SO2 = 0.6lbs/mmcf; Natural Gas Burned calc. above (Seg. 001 Process Rates)	SO2	0.6	lb/mmcf	'tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.067	0.060	tons/yr	0.063	0.077	0.005	0.008	
	From AP42: VOC = 5.5lbs/mmcf; Natural Gas Burned calc. above (Seg. 001 Process Rates)	VOC	5.5	lb/mmcf	'tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.614	0.547	tons/yr	0.580	0.708	0.050	0.077	
	H2SO4 EF = SO2 EF x 0.01	H2SO4	0.0060	lb/mmcf	'tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.001	0.001	tons/yr	0.001	0.001	0.000	0.000	
	From 40 CFR 98 Tables C-1 & C-2, CO2e = 117.0 lb/mmBtu; Natural Gas Burned calc. above (Seg. 001 Process Rates)	GHGs	117.0	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	13,317	11,872	tons/yr	12,594	15,355	1,093	1,668	

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Unit: 002	Stack: 17; 21B501 SSD, Bio-Gas Combustion												
Process Rates	Measured Bio-Gas Usage for 21D501 SSD Dryer (data)	Total Bio-Gas / year			mmcf/yr = (Total Bio-Gas Used 21D501 (data) kcf) (1/1000 mmcf/kcf)	98.58	99.56	mmcf/yr					
					mmBtu/yr = mmcf/yr * 714 mmBtu/mmcf	70,388	71,086	mmBtu/yr					
Pollutants	CO EF = average of 1/11/2008, 8/25-27/2009 source test results	CO	0.3222	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	11.339	11.452	tons/yr	11.396	13.894	0.989	1.509	PAE = BAE * (projected fiber increase) EE = (PAE - BAE) * (excludable portion of fiber increase);
	From AP42: NOX = 100lbs/mmcf; BioGas Burned calc. above; Bio Gas: 70% btu value vs Nat. Gas	NOX	70	lb/mmcf	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	3.450	3.485	tons/yr	3.468	4.228	0.301	0.459	if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	PM EF = average of 1/11/2008, 8/25-27/2009, 12/11/2012 source test results (filterable only)	PM	0.0024	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.084	0.085	tons/yr	0.085	0.103	0.007	0.011	See sheet: ATPA Prod Inputs for definition of terms
	PM10 EF = average of above source test results (filterable + condensable)	PM10	0.0065	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.229	0.231	tons/yr	0.230	0.280	0.020	0.030	
	PM2.5 = PM10 * Ratio. For SCC = 30200754, Ratio = 1.000	PM2.5	0.0065	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.229	0.231	tons/yr	0.230	0.280	0.020	0.030	
	SO2 leaving Bio Gas Scrubber (data); ratio of 21D501 flow-to-Total Biogas sent to FH	SO2	0.6	lb/mmcf	'tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.030	0.030	tons/yr	0.030	0.036	0.003	0.004	
	From AP42: VOC = 5.5lbs/mmcf; BioGas Burned calc. above; Bio Gas: 70% btu value vs Nat. Gas	VOC	5.5	lb/mmcf	'tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.271	0.274	tons/yr	0.272	0.332	0.024	0.036	
	H2SO4 EF = SO2 EF x 0.01	H2SO4	0.0060	lb/mmcf	'tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.000	0.000	tons/yr	0.000	0.000	0.000	0.000	
	From 40 CFR 98 Tables C-1 & C-2, CO2e = 115.4 lb/mmBtu; BioGas Burned calc. above	GHGs	115.4	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	4,061	4,102	tons/yr	4,082	4,976	354	541	
Gr: 006	**48D101 Gluten Flash Dryer**												
Unit: 002	Stack: 17; 48B101 Gluten Dryer, N-G Combustion												
Process Rates	Measured Natural Gas Usage for 48D101 Gluten Dryer (data)	Total NG for the year			mmcf/yr = (Total Natural Gas Used 48D101 (data) kcf) (1/1000 mmcf/kcf)	65.09	55.96	mmcf/yr					
					mmBtu/yr = mmcf/yr * 1020 mmBtu/mmcf	66,389	57,079	mmBtu/yr					
Pollutants	From AP42: CO = 84 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	CO	84	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	2.734	2.350	tons/yr	2.542	3.132	0.150	0.440	PAE = BAE * (projected gluten increase) EE = (PAE - BAE) * (excludable portion of gluten
	From AP42: NOX = 100 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	NOX	100	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	3.254	2.798	tons/yr	3.026	3.729	0.179	0.523	increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	From 40 CFR 98 Tables C-1 & C-2, CO2e = 117.0 lb/mmBtu; Natural Gas Burned calc. above (Seg. 002 Process Rates)	GHGs	117.0	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	3,884	3,339	tons/yr	3,611	4,450	214	625	See sheet: ATPA Prod Inputs for definition of terms
Unit: 003	Stack: 17; 48B101 Gluten, Bio-Gas Combustion												
Process Rates	Measured Bio-Gas Usage for 48D101 Gluten Dryer (data)	Total Bio-Gas / year			mmcf/yr = (Total Bio-Gas Used 48D101 (data) kcf) (1/1000 kcf/mmcf)	52.21	68.50	mmcf/yr					
					mmBtu/yr = mmcf/yr * 1020 mmBtu/mmcf * 0.7	37,278	48,913	mmBtu/yr					
Pollutants	From AP42: CO = 84 lbs/mmcf; BioGas Burned calc. above; Bio Gas: 70% btu value vs Nat. Gas	CO	58.8	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	1.535	2.014	tons/yr	1.775	2.186	0.105	0.307	PAE = BAE * (projected gluten increase) EE = (PAE - BAE) * (excludable portion of gluten
	From AP42: NOX = 100 lbs/mmcf; BioGas Burned calc. above; Bio Gas: 70% btu value vs Nat. Gas	NOX	70.0	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	1.8273	2.3977	tons/yr	2.113	2.603	0.125	0.365	increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	From 40 CFR 98 Tables C-1 & C-2, CO2e = 115.4 lb/mmBtu; BioGas Burned calc. above	GHGs	115.4	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	2,151	2,822	tons/yr	2,487	3,064	147	430	See sheet: ATPA Prod Inputs for definition of terms
Gr: 007	**48F201 RTO #1 Burner**												
Unit: 001	Stack: 17; 48B201 RTO Nat. Gas Combustion												
Process Rates	Measured Gas Usage for 48F201 RTO #1 (data)	Total NG for the year			mmcf/yr = (Total Gas Used 48F201 (data) kcf) (1/1000 kcf/mmcf)	17.66	14.97	mmcf/yr					
					mmBtu/yr = mmcf/yr * 1020 mmBtu/mmcf	18,008	15,269	mmBtu/yr					
Pollutants	From AP42: CO = 84 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	CO	84	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.742	0.629	tons/yr	0.685	0.839	0.055	0.099	PAE = BAE * (projected grind increase) EE = (PAE - BAE) * (excludable portion of grind
	From AP42: NOX = 100 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	NOX	100	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.883	0.748	tons/yr	0.816	0.999	0.066	0.118	increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	From 40 CFR 98 Tables C-1 & C-2, CO2e = 117.0 lb/mmBtu; Natural Gas Burned calc. above (Seg. 002 Process Rates)	GHGs	117.0	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	1,053	893	tons/yr	973	1,192	79	140	See sheet: ATPA Prod Inputs for definition of terms
Gr: 008	**48F202 RTO #2 Burner**												
Unit: 001	Stack: 17; 48B202 RTO Nat. Gas Combustion												
Process Rates	Measured Gas Usage for 48F202 RTO #2 (data)	Total NG for the year			mmcf/yr = (Total Gas Used 48F202 (data) kcf) (1/1000 kcf/mmcf)	17.66	14.97	mmcf/yr					
					mmBtu/yr = mmcf/yr * 1020 mmBtu/mmcf	18,008	15,269	mmBtu/yr					
Pollutants	From AP42: CO = 84 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	CO	84	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.742	0.629	tons/yr	0.685	0.908	0.080	0.143	PAE = BAE * (projected grind increase) EE = (PAE - BAE) * (excludable portion of grind
	From AP42: NOX = 100 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	NOX	100	lb/mmcf	tons/yr = (Emission Factor, lb/mmcf) (mmcf/yr) (1/2000 lb/ton)	0.883	0.748	tons/yr	0.816	1.081	0.095	0.170	increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	From 40 CFR 98 Tables C-1 & C-2, CO2e = 117.0 lb/mmBtu; Natural Gas Burned calc. above (Seg. 002 Process Rates)	GHGs	117.0	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	1,053	893	tons/yr	973	1,290	114	203	See sheet: ATPA Prod Inputs for definition of terms

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Operating Hours	48D101 hours of operation.	hrs/yr			hrs/yr = (48D101 Meal Dryer Operating hours hrs/yr)	8,321	8,378	hrs/yr					
Unit: 001	Stack: 145; 21F36 Meal Transfer Baghouse												
Process Rates	Total scf of AIR through this Pollution Control Device (PM_Data)	Total scf for the year			mmcf/yr = (9,778 scfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	4,882	4,915	mmscf/yr					
Pollutants	9,778 scfm; 0.01 gr/scf (PM_Data)	PM	0.01	gr/scf	tons/yr = (9,778 scfm) (0.01/7000 lbs/scf) (1/2000 lb/ton) (60 min/hr) (Operating hrs/yr)	3.487	3.511	tons/yr	3.499	4.311	0.207	0.605	PAE = BAE * (projected gluten increase) EE = (PAE - BAE) * (excludable portion of gluten
	9,778 scfm; 0.01 gr/scf (PM_Data)	PM10	0.01	gr/scf	tons/yr = (9,778 scfm) (0.01/7000lbs/scf) (1/2000 lb/ton) (60 min/hr) (Operating hrs/yr)	3.487	3.511	tons/yr	3.499	4.311	0.207	0.605	increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.54762	PM2.5	0.0055	gr/scf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	1.910	1.923	tons/yr	1.916	2.361	0.113	0.331	See sheet: ATPA Prod Inputs for definition of terms
Gr: 019	**8V62 Meal Bin**												
Operating Hours	Operating hours = 1/2 of 48D101 Meal Dryer operating hours (2 bins)	hrs/yr			hrs/yr = 1/2 (48D101 Operating hrs/yr)	4,161	4,189	hrs/yr					
Unit: 001	Stack: 114; 8F62 Meal Bin Vent												
Process Rates	Total scf of AIR through this Pollution Control Device (PM_Data)	Total scf for the year			mmcf/yr = (1,920 scfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	479.3	482.6	mmscf/yr					
Pollutants	1,920 scfm; 0.005 gr/scf (PM_Data)	PM	0.005	gr/scf	tons/yr = (1,920 scfm) (0.005/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.171	0.172	tons/yr	0.172	0.212	0.010	0.030	PAE = BAE * (projected gluten increase) EE = (PAE - BAE) * (excludable portion of gluten
	1,920 scfm; 0.005 gr/scf (PM_Data)	PM10	0.005	gr/scf	tons/yr = (1,920 scfm) (0.005/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.171	0.172	tons/yr	0.172	0.212	0.010	0.030	increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.54762	PM2.5	0.0027	gr/scf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.094	0.094	tons/yr	0.094	0.116	0.006	0.016	See sheet: ATPA Prod Inputs for definition of terms
Gr: 020	**8V63 Meal Bin**												
Operating Hours	Operating hours = 1/2 of 48D101 Meal Dryer operating hours (2 bins)	hrs/yr			hrs/yr = 1/2 (48D101 Operating hrs/yr)	4,161	4,189	hrs/yr					
Unit: 001	Stack: 115; 8F63 Meal Bin Vent												
Process Rates	Total scf of AIR through this Pollution Control Device (PM_Data)	Total scf for the year			mmcf/yr = (1,920 scfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	479.3	482.6	mmscf/yr					
Pollutants	1,920 scfm; 0.005 gr/scf (PM_Data)	PM	0.005	gr/scf	tons/yr = (1,920 scfm) (0.005/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.171	0.172	tons/yr	0.172	0.212	0.010	0.030	PAE = BAE * (projected gluten increase) +O174; if > PAE - BAE, EE = PAE - BAE
	1,920 scfm; 0.005 gr/scf (PM_Data)	PM10	0.005	gr/scf	tons/yr = (1,920 scfm) (0.005/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.171	0.172	tons/yr	0.172	0.212	0.010	0.030	PEI = PAE - BAE - EE See sheet: ATPA Prod Inputs for definition of terms
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.54762	PM2.5	0.0027	gr/scf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.094	0.094	tons/yr	0.094	0.116	0.006	0.016	
Gr: 021	**8V53 Germ Bin**												
Operating Hours	Operating hours = 1/2 of 21D401 Germ Dryer operating hours (2 bins)	hrs/yr			hrs/yr = 1/2 (21D401 Germ Dryer Operating hrs/yr)	4,295	4,290	hrs/yr					
Unit: 001	Stack: 116; 8F53 Germ Bin Vent												
Process Rates	Total scf of AIR through this Pollution Control Device (PM_Data)	Total scf for the year			mmcf/yr = (1,920 scfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	494.8	494.2	mmscf/yr					
Pollutants	1,920 scfm; 0.005 gr/scf (PM_Data)	PM	0.005	gr/scf	tons/yr = (1,920 scfm) (0.005/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.177	0.177	tons/yr	0.177	0.216	0.014	0.025	PAE = BAE * (projected germ increase) EE = (PAE - BAE) * (excludable portion of germ
	1,920 scfm; 0.005 gr/scf (PM_Data)	PM10	0.005	gr/scf	tons/yr = (1,920 scfm) (0.005/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.177	0.177	tons/yr	0.177	0.216	0.014	0.025	increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.54762	PM2.5	0.0027	gr/scf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.097	0.097	tons/yr	0.097	0.118	0.008	0.014	See sheet: ATPA Prod Inputs for definition of terms

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Operating Hours	Operates 23hrs/day, 7 days/wk, 52 wks/yr	hrs/yr			hrs/yr = (23 hrs/day) (7 days/wk) (52wks/yr)	8,372	8,372	hrs/yr					
Unit: 001	Stack: 125; 12F39 Co-Product Transfer Cltr												
Process Rates	Total scf of AIR through this Pollution Control Device (PM_Data)	Total scf for the year			mmcf/yr = (2,444 scfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	1,227.7	1,227.7	mmscf/yr					
Pollutants	2,444 scfm; 0.01 gr/scf (PM_Data)	PM	0.01	gr/scf	tons/yr = (2,444 scfm) (0.01/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.877	0.877	tons/yr	0.877	1.074	0.071	0.126	PAE = BAE * (projected grind increase)
	2,444 scfm; 0.01 gr/scf (PM_Data)	PM10	0.01	gr/scf	tons/yr = (2,444 scfm) (0.01/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.877	0.877	tons/yr	0.877	1.074	0.071	0.126	EE = (PAE - BAE) * (excludable portion of grind increase); if > PAE - BAE, EE = PAE - BAE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.54762	PM2.5	0.0055	gr/scf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.480	0.480	tons/yr	0.480	0.588	0.039	0.069	PEI = PAE - BAE - EE See sheet: ATPA Prod Inputs for definition of terms
Gr: 024	**12C40 Rail Loadout Aspiration**												
Operating Hours	Operates 23hrs/day, 7 days/wk, 52 wks/yr	hrs/yr			hrs/yr = (23 hrs/day) (7 days/wk) (52wks/yr)	8,372	8,372	hrs/yr					
Unit: 001	Stack: 3; 12F40 Rail Loadout Dust Collector												
Process Rates	Total scf of AIR through this Pollution Control Device (PM_Data)	Total scf for the year			mmcf/yr = (5,867 scfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	2,947	2,947	mmscf/yr					
Pollutants	5,867 scfm; 0.01 gr/scf (PM_Data)	PM	0.01	gr/scf	tons/yr = (5,867 scfm) (0.1/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	2.105	2.105	tons/yr	2.105	2.203	0.000	0.098	PTE = BAE * (8760 hrs/yr / actual avg. hrs/yr)
	5,867 scfm; 0.01 gr/scf (PM_Data)	PM10	0.01	gr/scf	tons/yr = (5,867 scfm) (0.01/7000 lbs/scf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	2.105	2.105	tons/yr	2.105	2.203	0.000	0.098	PEI = PTE - BAE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.54762	PM2.5	0.0055	gr/scf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	1.153	1.153	tons/yr	1.153	1.206	0.000	0.053	
Gr: 026	**Steep, Mill & Feed house SO2 Ventilation**												
Unit: 001	Stack: 17; 15F401 Millhse Aspir Wet Scrubber												
Process Rates	Annual grind					25.286	25.375	mmbu/yr					
Pollutants	SO2 EF = average of 3/27/2008, 3/20/2013 scrubber outlet source test results	SO2	0.187	lb/kbu	tons/yr = (Emission Factor, lb/kbu) (mmbu/yr) (1000 kbu/mmbu) (1/2000 lb/ton)	2.359	2.367	tons/yr	2.363	2.895	0.191	0.341	SO2 PAE = BAE * (projected grind increase) VOC PAE = allowable (27 lb/hr) * (8760 hrs/yr) / 2000 lb/ton
	VOC EF = average of 3/27/2008, 3/20/2013 scrubber outlet source test results	VOC	8.485	lb/kbu	tons/yr = (Emission Factor, lb/kbu) (mmbu/yr) (1000 kbu/mmbu) (1/2000 lb/ton)	107.269	107.645	tons/yr	107.457	118.260	8.674	2.128	EE = CHA production (mmbu/yr) * (1000 kbu/mmbu) * (BAE emission factor, lb/kbu) / (2000 lb/ton) - BAE PEI = PAE - BAE - EE See sheet: ATPA Prod Inputs for definition of terms
Gr: 031	**9V31 Filter-Aid Silo**												
Operating Hours	Greater of 1) Total Usage (lb/yr) (data)/ Title V Unload Rate (lb/hr) or 2) 8 hrs/wk, 52wks/yr = 416 hrs/yr	hrs/yr			hrs/yr = Max: 1) (Total Filter-Aid Usage lb/yr) / (10,000 lb/hr) or 2) (8 hrs/wk) (52wks/yr)	416	416	hrs/yr					
Unit: 001	Stack: 123; 9F31 Filter-Aid Silo Bin Vent												
Process Rates	Total acf of AIR through this Pollution Control Device (PM_Data)	Total acf for the year			mmcf/yr = (350 acfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	8.736	8.736	mmacf/yr					
Pollutants	350 acfm; 0.01 gr/acf (PM_Data)	PM	0.01	gr/acf	tons/yr = (350 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.006	0.006	tons/yr	0.006	0.009	0.000	0.003	PAE = BAE * 1.5 (50% increase projected) No emissions excluded
	350 acfm; 0.01 gr/acf (PM_Data)	PM10	0.01	gr/acf	tons/yr = (350 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.006	0.006	tons/yr	0.006	0.009	0.000	0.003	PEI = PAE - BAE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.72581	PM2.5	0.0073	gr/acf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.005	0.005	tons/yr	0.005	0.007	0.000	0.002	

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Gr: 032	**18C18 Filter-Aid Transfer**												
Operating Hours	Greater of 1) Total Usage (lb/yr) (data)/ Title V Unload Rate (lb/hr) or 2) 3 hrs/day, 6 days/wk, 52 wks/yr = 936 hrs/yr	hrs/yr			hrs/yr = Max: 1) (Total Filter-Aid Usage lb/yr) / (5,000 lb/hr) or 2) (3 hrs/day) (6 days/wk) (52wks/yr)	936	936	hrs/yr					
Unit: 001	Stack: 129; 18F118 Filter-Aid Receiver												
Process Rates	Total acf of AIR through this Pollution Control Device (PM_Data)	Total acf for the year			mmcf/yr = (350 acfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	19.656	19.656	mmacf/yr					
Pollutants	350 acfm; 0.01 gr/acf (PM_Data)	PM	0.01	gr/acf	tons/yr = (350 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.014	0.014	tons/yr	0.014	0.021	0.000	0.007	PAE = BAE * 1.5 (50% increase projected) No emissions excluded
	350 acfm; 0.01 gr/acf (PM_Data)	PM10	0.01	gr/acf	tons/yr = (350 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.014	0.014	tons/yr	0.014	0.021	0.000	0.007	PEI = PAE - BAE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.72581	PM2.5	0.0073	gr/acf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.010	0.010	tons/yr	0.010	0.015	0.000	0.005	
Gr: 033	**9V144 Soda Ash Storage Tank**												
Operating Hours	Greater of 1) Total Usage (lb/yr) (data)/ Title V Unload Rate (lb/hr) or 2) 6 hrs/day, 3days/wk, 52 wks/yr = 936 hrs/yr	hrs/yr			hrs/yr = Max: 1) (Total Soda Ash Usage lb/yr) / (11,875 lb/hr) or 2) (6 hrs/day) (3days/wk) (52wks/yr)	936	936	hrs/yr					
Unit: 001	Stack: 149; 9E1 Soda Ash Transfer Eductor												
Process Rates	Total acf of AIR through this Pollution Control Device (PM_Data)	Total acf for the year			mmcf/yr = (1,550 acfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	87.048	87.048	mmacf/yr					
Pollutants	1550 acfm; 0.02 gr/acf (PM_Data)	PM	0.02	gr/acf	tons/yr = (1,550 acfm) (0.02/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.124	0.124	tons/yr	0.124	0.137	0.000	0.012	PAE = BAE * 1.10 (10% increase projected) No emissions excluded
	1550 acfm; 0.02 gr/acf (PM_Data)	PM10	0.02	gr/acf	tons/yr = (1,550 acfm) (0.02/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.124	0.124	tons/yr	0.124	0.137	0.000	0.012	PEI = PAE - BAE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.77055	PM2.5	0.0154	gr/acf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.096	0.096	tons/yr	0.096	0.105	0.000	0.010	
Gr: 034	**9C30 Carbon Unloading to Silo**												
Operating Hours	Total Usage (lb/yr) (data)/ Title V Unload Rate (lb/hr)	hrs/yr			hrs/yr = Total Powdered Carbon Usage (lb/yr) / (13,333 lb/hr)	72	65	hrs/yr					
Unit: 001	Stack: 124; 9F30 Bin Vent Filter												
Process Rates	Total acf of AIR through this Pollution Control Device (PM_Data)	Total acf for the year			mmcf/yr = (350 acfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	1.509	1.365	mmacf/yr					
Pollutants	BAE = 350 acfm; 0.01 gr/acf (PM_Data); PAE = 700 acfm; 0.005 gr/acf	PM	0.01	gr/acf	tons/yr = (350 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.001	0.001	tons/yr	0.001	0.002	0.000	0.001	PAE = BAE * (700/350) * (0.005/0.01) * 1.5 (50% increase projected)
	BAE = 350 acfm; 0.01 gr/acf (PM_Data); PAE = 700 acfm; 0.005 gr/acf	PM10	0.01	gr/acf	tons/yr = (350 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.001	0.001	tons/yr	0.001	0.002	0.000	0.001	No emissions excluded PEI = PAE - BAE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.72581	PM2.5	0.0073	gr/acf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.001	0.001	tons/yr	0.001	0.001	0.000	0.000	
Gr: 037	**45V250 Sodium Sulfate Bin**												
Operating Hours	Total Usage (lb/yr) (data)/ Title V Unload Rate (lb/hr)	hrs/yr			hrs/yr = (Total Sodium Sulfate Usage lb/yr) / (19,000 lb/hr)	2,033	1,886	hrs/yr					
Unit: 001	Stack: 64; 45F25 Sodium Sulfate Bin Vent												
Process Rates	Total acf of AIR through this Pollution Control Device (PM_Data)	Total acf for the year			mmcf/yr = (1,500 acfm) (60min/hr) (Operating hrs/yr) (1/1E06 cf/mmcf)	182.937	169.740	mmacf/yr					
Pollutants	1500 acfm; 0.01 gr/acf (PM_Data)	PM	0.01	gr/acf	tons/yr = (1500 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.131	0.121	tons/yr	0.126	0.145	0.000	0.019	PAE = BAE * 1.15 (15% increase projected) No emissions excluded
	1500 acfm; 0.01 gr/acf (PM_Data)	PM10	0.01	gr/acf	tons/yr = (1500 acfm) (0.01/7000 lbs/acf) (1/2000 lb/ton) (60min/hr) (Operating hrs/yr)	0.131	0.121	tons/yr	0.126	0.145	0.000	0.019	PEI = PAE - BAE
	PM2.5 = PM10 * Ratio. For SCC = 30200756, Ratio = 0.72581	PM2.5	0.0073	gr/acf	tons/yr = (PM10 tons/yr, see above) (PM2.5/PM10 ratio from PM_Data sheet)	0.095	0.088	tons/yr	0.091	0.105	0.000	0.014	
Calculate Boiler Steam Demand									Production based, not emissions				
Gr: 102	**31B1 CoGen Boiler (coal)**					1,379,066	1,594,301	mmBtu/yr	1,486,684	1,933,576	127,437	227,479	Projected mmBtu/yr = (baseline actual mmBtu/yr) * (projected grind increase) Excludable mmBtu/yr = (projected mmBtu/yr - baseline mmBtu/yr) * (excludable grind increase)
Gr: 102	**31B1 CoGen Boiler (gas)**					144,684	39,267	mmBtu/yr	91,975				
Gr: 096	**11B1 Gas Boiler**					34,364	22,815	mmBtu/yr	28,590	105,051.3	6,924	12,359	
Gr: 097	**11B2 Gas Boiler**					34,364	22,815	mmBtu/yr	28,590				
Gr: 098	**11B3 Gas Boiler**					34,364	22,815	mmBtu/yr	28,590				
Total	**Boiler Heat Input**					1,626,842	1,702,013	mmBtu/yr	1,664,428	2,038,627	134,361	239,838	
Total	**mmBtu/kbu**					64.338	67.076	mmBtu/kbu	65.707				
Assign Increase to: 1) CoGen Boiler (31B1) - assume 90% capacity factor, 2) Gas boiler group (11B1, 2, 3) - remainder													

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Gr: 102	**31B1 CoGen Boiler - BAE**												
Unit: 001	Stack: 202; 31B1 CoGen Boiler (Coal)												
Process Rates	Total Coal Burned	tons/yr			tons/yr = (Total Boiler Coal Burned tons/yr)	61,912	71,467	tons/yr					
		mmBtu/yr			Calculated based on monthly avg. coal HHV	1,379,066	1,594,301	mmBtu/yr	1,486,684				
Pollutants: BAE	PM EF: Average of Airtech Test Report 2824 (10/08), 3045B (9/09) & 4315B (10/13)	PM	0.0257	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	17.721	20.487	tons/yr	19.104				
	PM10 EF: PM EF + condensable PM from Airtech Test Report 3045B (9/09)	PM10	0.0848	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	58.472	67.598	tons/yr	63.035				
	PM2.5 EF: Airtech Test Report 3045B (9/09); filterable + condensable	PM2.5	0.0719	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	49.577	57.315	tons/yr	53.446				
	SO2 Emissions: CEMS Data (see Sheet: Coal Blr Op Data)	SO2			CEMS Data (see Sheet: Coal Blr Op Data)	344.517	409.402	tons/yr	376.959				
	NOx Emissions: CEMS Data (see Sheet: Coal Blr Op Data)	NOX			CEMS Data (see Sheet: Coal Blr Op Data)	250.488	304.845	tons/yr	277.667				
	CO EF: Airtech Test Report 3045B (9/09)	CO	0.0062	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	4.275	4.942	tons/yr	4.609				
	VOC EF: AP-42, Table 1.1-19 (9/98)	VOC	0.06	lb/ton	'tons/yr = (Emission Factor, lb/ton) (tons/yr) (1/2000 lb/ton)	1.857	2.144	tons/yr	2.001				
	H2SO4 Emissions: Calculated as 1% of SO2	H2SO4			tons/yr = (SO2 emissions) (0.01)	3.445	4.094	tons/yr	3.770				
	F EF: Airtech Test Report 3045B (9/09)	F	2.71E-04	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.187	0.216	tons/yr	0.201				
	Pb EF: Airtech Test Report 3045B (9/09)	Pb	1.91E-06	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.001	0.002	tons/yr	0.001				
	GHG (CO2e) EF: 40 CFR 98 Subpart C, Tables C-1 and C-2	GHGs	207.5	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	143,087	165,419	tons/yr	154,253				
Unit: 002	Stack: 202; 31B1 CoGen Boiler (Gas)												
Process Rates	Total Gas Burned mmcf/yr (data)	Total NG for the year			mmcf/yr = (Total Boiler Gas Burned kcf/yr) (1/1000mmcf/kcf)	141.847	38.497	mmcf/yr					
					mmBtu/yr = (mmcf/yr) (1020 mmBtu/mmcf)	144,684	39,267	mmBtu/yr					
Pollutants: BAE	From AP42: PM = 1.9 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	PM	1.9	lb/mmscf	tons/yr = (Emission Factor, lb/mmscf) (mmscf/yr) (1/2000 lb/ton)	0.135	0.037	tons/yr	0.086				
	From AP42: PM10 = 7.6 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	PM10	7.6	lb/mmscf	tons/yr = (Emission Factor, lb/mmscf) (mmscf/yr) (1/2000 lb/ton)	0.539	0.146	tons/yr	0.343				
	From AP42: PM2.5 = 7.6 lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	PM2.5	7.6	lb/mmscf	tons/yr = (Emission Factor, lb/mmscf) (mmscf/yr) (1/2000 lb/ton)	0.539	0.146	tons/yr	0.343				
	Included in CEMS data above	SO2			Included in CEMS data above								
	Included in CEMS data above	NOX			Included in CEMS data above								
	From AP42: CO = 84lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	CO	84	lb/mmscf	tons/yr = (Emission Factor, lb/mmscf) (mmscf/yr) (1/2000 lb/ton)	5.958	1.617	tons/yr	3.787				
	From AP42: VOC = 5.5lbs/mmcf; Natural Gas Burned calc. above (Seg. 002 Process Rates)	VOC	5.5	lb/mmscf	tons/yr = (Emission Factor, lb/mmscf) (mmscf/yr) (1/2000 lb/ton)	0.390	0.106	tons/yr	0.248				
	H2SO4 Emissions: Calculated as 1% of SO2	H2SO4			Based on SO2 CEMS data, included in coal (Unit: 001) emissions above								
	Pollutant not emitted from natural gas combustion	F	0.00	lb/mmBtu		0.000	0.000	tons/yr	0.000				
	Pollutant not emitted from natural gas combustion	Pb	0.00	lb/mmBtu		0.000	0.000	tons/yr	0.000				
	GHG (CO2e) EF: 40 CFR 98 Subpart C, Tables C-1 and C-2	GHGs	117.0	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	8,464	2,297	tons/yr	5,380.7				
Gr: 102	**31B1 CoGen Boiler - PAE**												
Unit: 002	Stack: 202; 31B1 CoGen Boiler (Gas)								Production based, not emissions				
Process Rates	Projected Gas Rate mmBtu/yr	Total NG for the year			**PAE Calculation Text**				1,578,659	1,933,576	127,437	227,479	Projected boiler heat input (from above) = 220.7 mmBtu/hr (annual average) = 96% capacity factor
Pollutants: PAE	From AP42: PM = 1.9 lbs/mmcf; 1020 Btu/scf	PM	0.0019	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				19.190	1.801	0.000	0.000	PAE = PAE EF (lb/mmBtu) * projected heat input (mmBtu/yr) / (2000 lb/ton)
	From AP42: PM10 = 7.6 lbs/mmcf; 1020 Btu/scf	PM10	0.0075	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				63.378	7.204	0.000	0.000	No emissions excluded
	From AP42: PM2.5 = 7.6 lbs/mmcf; 1020 Btu/scf	PM2.5	0.0075	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				53.789	7.204	0.000	0.000	PEI = PAE - BAE
	From AP42: SO2 = 0.6lbs/mmcf; 1020 Btu/scf	SO2	0.0006	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				376.959	0.569	0.000	0.000	
	Burner vendor specification	NOX	0.1	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				277.667	96.679	0.000	0.000	
	Burner vendor specification	CO	0.07	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				8.396	67.675	0.000	59.279	
	From AP42: VOC = 5.5lbs/mmcf; 1020 Btu/scf	VOC	0.0054	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				2.249	5.213	0.000	2.964	
	H2SO4 Emissions: Calculated as 1% of SO2	H2SO4	5.88E-06	lb/mmBtu	tons/yr = (SO2 emissions) (0.01)				3.770	0.006	0.000	0.000	
	Pollutant not emitted from natural gas combustion	F	0.00	lb/mmBtu					0.201	0.000	0.000	0.000	
	Pollutant not emitted from natural gas combustion	Pb	0.00	lb/mmBtu					0.001	0.000	0.000	0.000	
	GHG (CO2e) EF: 40 CFR 98 Subpart C, Tables C-1 and C-2	GHGs	117.0	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)				159,633	113,117	0.000	0.000	

→ Sum BAE from above →

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Gr: 102	**11B1, 11B2, 11B3 - Gas Boiler Group**												Projected mmBtu/yr = (baseline actual mmBtu/yr) * (projected grind increase) Excludable mmBtu/yr = (projected mmBtu/yr - baseline mmBtu/yr) * (excludable grind increase)
Process Rates	Stack: 197; 11B1, 11B2, 11B3												
	Heat input (MMBtu/yr)	Heat input				103,092	68,445	mmBtu/yr	85,769	105,051	6,924	12,359	
Pollutants	From AP42: PM = 1.9 lbs/mmcf; 1020 Btu/scf	PM	0.0019	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.096	0.064	tons/yr	0.080	0.098	0.006	0.012	PAE = PAE EF (lb/mmBtu) * projected heat input (mmBtu/yr) / (2000 lb/ton) EE = (PAE - BAE) * excludable portion of projected increase in heat input PEI = PAE - BAE - EE
	From AP42: PM10 = 7.6 lbs/mmcf; 1020 Btu/scf	PM10	0.0075	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.384	0.255	tons/yr	0.320	0.391	0.026	0.046	
	From AP42: PM2.5 = 7.6 lbs/mmcf; 1020 Btu/scf	PM2.5	0.0075	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.384	0.255	tons/yr	0.320	0.391	0.026	0.046	
	From AP42: SO2 = 0.6lbs/mmcf; 1020 Btu/scf	SO2	0.0006	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.030	0.020	tons/yr	0.025	0.031	0.002	0.004	
	From AP42: NOX = 280/mmcf; 1020 Btu/scf	NOX	0.2745	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	14.150	9.394	tons/yr	11.772	14.419	0.950	1.696	
	From AP42: CO = 84/mmcf; 1020 Btu/scf	CO	0.0824	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	4.245	2.818	tons/yr	3.532	4.326	0.285	0.509	
	From AP42: VOC = 5.5lbs/mmcf; 1020 Btu/scf	VOC	0.0054	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	0.278	0.185	tons/yr	0.231	0.283	0.019	0.033	
	H2SO4 Emissions: Calculated as 1% of SO2	H2SO4	5.88E-06	lb/mmBtu	tons/yr = (SO2 emissions) (0.01)	0.000	0.000	tons/yr	0.000	0.000	0.000	0.000	
	GHG (CO2e) EF: 40 CFR 98 Subpart C, Tables C-1 and C-2	GHGs	117.0	lb/mmBtu	tons/yr = (Emission Factor, lb/mmBtu) (mmBtu/yr) (1/2000 lb/ton)	6,031	4,004	tons/yr	5,018	6,146	405	723	
Gr: 195	**Starch Modification Propylene Oxide (P.O.) Potentially Affected Emissions Unit Group**												
	40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120, 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 Group includes all potentially affected existing emissions units (affected by P.O. starch modification) downstream of the reactors. The existing reactors are unaffected and the 2 new reactors are addressed separately as new emissions units (PTE).	VOC			BAE = average of 2011 - 2012 P.O. starch production and emissions from group of potentially affected emissions units based on material balance; see sheet: P.O. Balance BAE				10.410	14.440	4.030	0.000	PAE based on existing capability to produce P.O. modified starches (361 mmLbs propylated starch/yr). The entire projected increase (PAE - BAE) is excludable because these are emissions that the units could have accommodated in the baseline period and the increase is unrelated to the project. Note that P.O. starch modification emissions associated with the 2 new P.O. reactors and 3 new dryers (Flash Dryer #4 and Roll Dryers #304 & #305) are addressed separately as new emissions units (based on PTE).
Gr: 995	**Plant Fugitive Emissions**												
Unit: 001	Plant Fugitive Emissions												
	See calculation detail sheets: - Building Fug - WWTP Fug - Paved Road Fug - Truck Loadout & Receiving Fug												
Pollutants	See calculation detail sheets: - Building Fug - WWTP Fug - Paved Road Fug - Truck Loadout & Receiving Fug	PM			See calculation detail sheets: - Building Fug - WWTP Fug - Paved Road Fug - Truck Loadout & Receiving Fug				14.481	17.046	0.921	1.644	PAE = BAE (excluding coal/ash operations) * (projected grind increase) EE = (PAE - BAE) * (excludable grind increase); if > PAE - BAE, EE = PAE - BAE PEI = PAE - BAE - EE See sheet: ATPA Prod Inputs for definition of terms
		PM10							2.985	3.518	0.191	0.342	
		PM2.5							0.704	0.828	0.045	0.080	
		SO2							8.676	10.627	0.700	1.250	
		VOC							21.961	26.898	1.773	3.164	

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

ATPA Calculation Production Rate Inputs for PAE and EE

	Baseline Actual BA	Projected Actual PA	Could Have Accommodated CHA	Excludable E	Project Impact PI		Projected Increase	Excludable Portion
Grind Rates (bu/day)	69,398	85,000	75,000	5,602	10,000	14.41%	122.5%	35.9%
Grind Rates (mmbu/yr)	25.33	31.03	27.38	2.04				
Starch (lbs DS/day)	2,222,120	2,725,100	2,400,000	177,880	325,100	14.63%	122.6%	35.4%
Germ (lbs DS/day)	111,037	136,000	120,000	8,963	16,000	14.41%	122.5%	35.9%
Gluten (lbs DS/day)	158,353	195,114	167,727	9,374	27,386	17.29%	123.2%	25.5%
Fiber (lbs DS/day)	811,829	989,786	882,273	70,444	107,514	13.24%	121.9%	39.6%

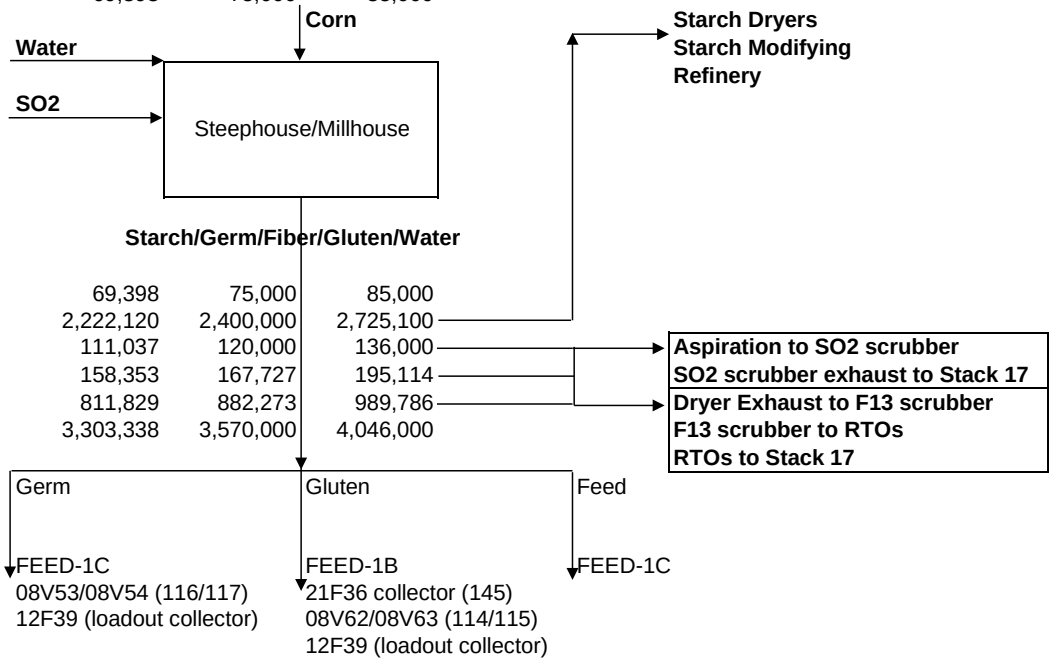
Derivation of factors used to calculate PAE and EE:

1) Baseline Actual production rates (BA) from sheet: Yield Proj Material Bal (BA @ 69,303 bu/d grind)
2) Projected Actual production rates (PA) from sheet: Yield Proj Material Bal (PA @ 85,000 bu/d grind)
3) Could have accommodated production rates (CHA) from sheet Yield Proj Material Bal (CHA @ 75,000 bu/d grind)
4) Excludable production rates (E) = CHA - BA
5) Project Impact (PI) = PA - BA - E
6) Projected Increase (%) = PA / BA
7) Excludable Portion (%) = E / (PA - BA)

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Yield Improvement Project Material Balance

	Actual	CHA	Projected
Starch In Fiber	18.30%	19%	17.50%
Gluten Comm Yield (lbs/bu)	2.51	2.46	2.525
Gluten DS Yield (lbs DS/bu)	2.28	2.24	2.30
Starch DS Yield (lbs/bu)	32.02	32	32.06
Starch Comm Yield (lbs/bu)	35.22	35.20	35.27
Grind Rate (bu/day)	69,398	75,000	85,000

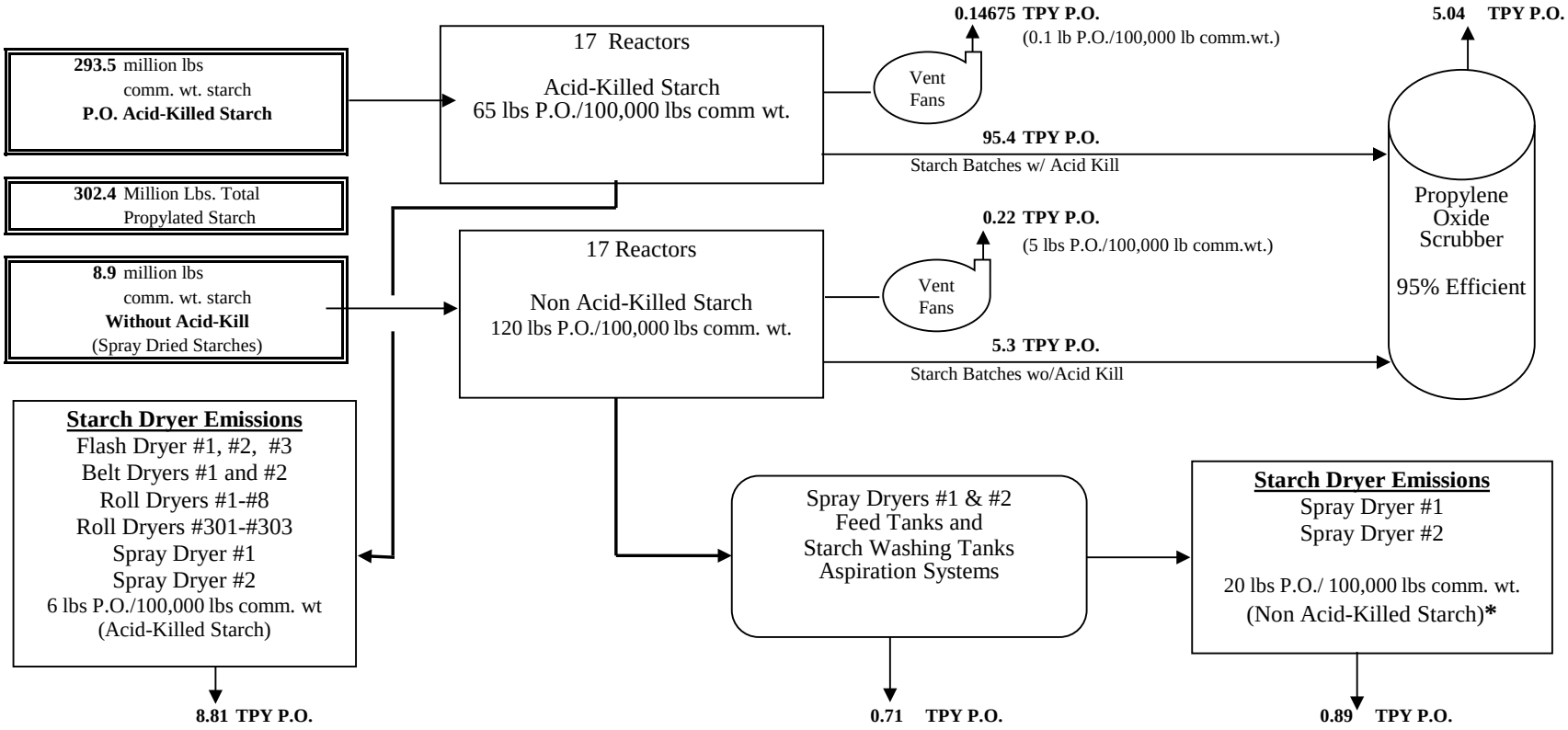


Grind Rates (bu/day)	69,398	75,000	85,000
Starch (lbs DS/day)	2,222,120	2,400,000	2,725,100
Germ (lbs DS/day)	111,037	120,000	136,000
Gluten (lbs DS/day)	158,353	167,727	195,114
Fiber (lbs DS/day)	811,829	882,273	989,786
TOTAL (lbs DS/day)	3,303,338	3,570,000	4,046,000

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Propylene Oxide (P.O.) Modified Starch Material Balance: 2011-2012 Average = BAE



Total Uncontrolled P.O. Emissions	**111.50 TPY P.O.**
Total Controlled P.O. Emissions	**15.81 TPY P.O.**

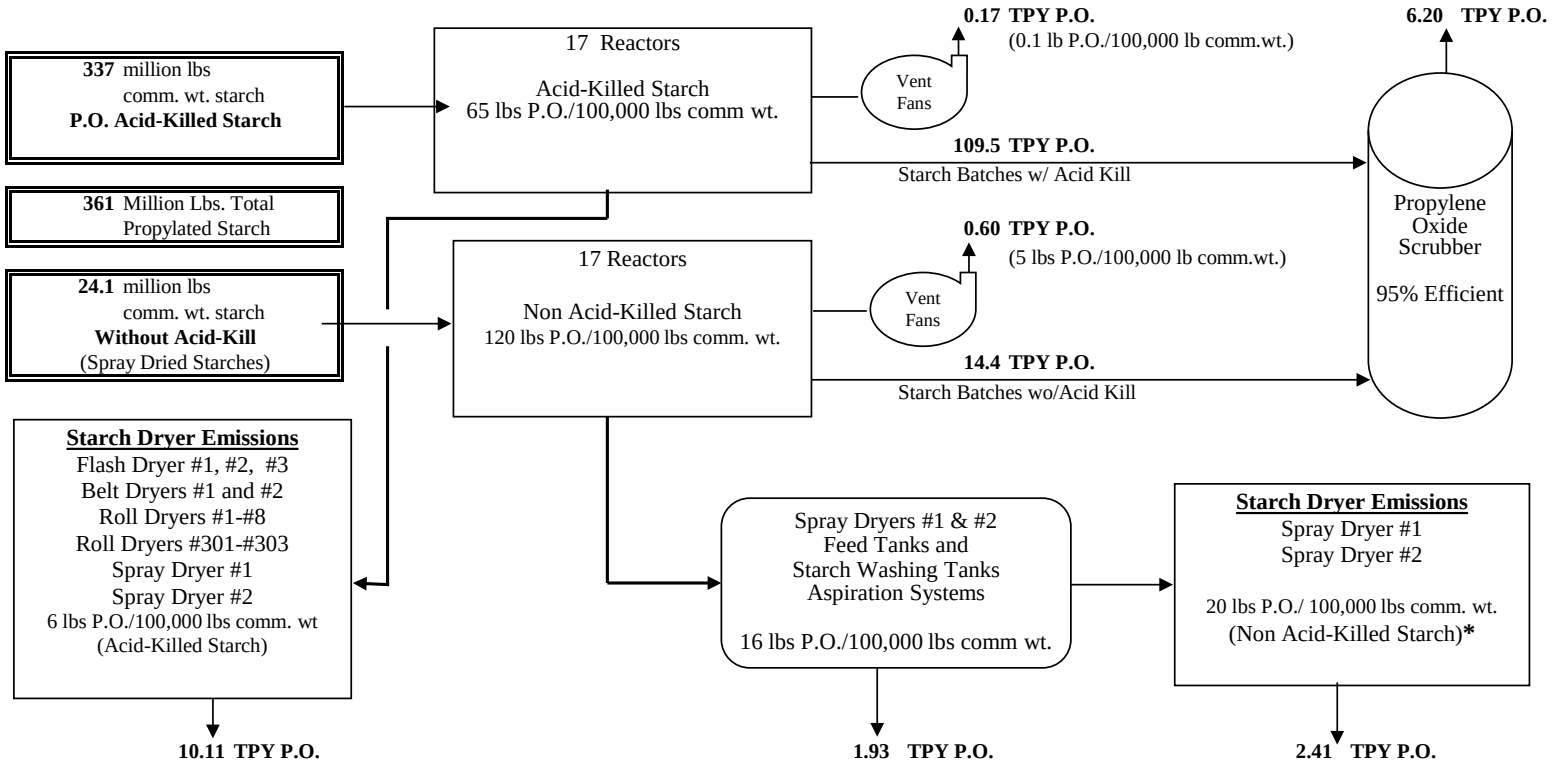
*** Note: Non-acid killed batches may be rarely processed on other dryer systems. The same emission factor applies for these dryers.**

NOTE: Average annual production for CY 2011-2012.

Total non-reactor controlled **10.41**

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Propylene Oxide (P.O.) Modified Starch Material Balance: Existing Plant Capability and Projected Rates = PAE & CHAE



Total Uncontrolled P.O. Emissions	**139.15 TPY P.O.**
Total Controlled P.O. Emissions	**21.41 TPY P.O.**

*** Note: Non-acid killed batches may be rarely processed on other dryer systems. The same emission factor applies for these dryers.**

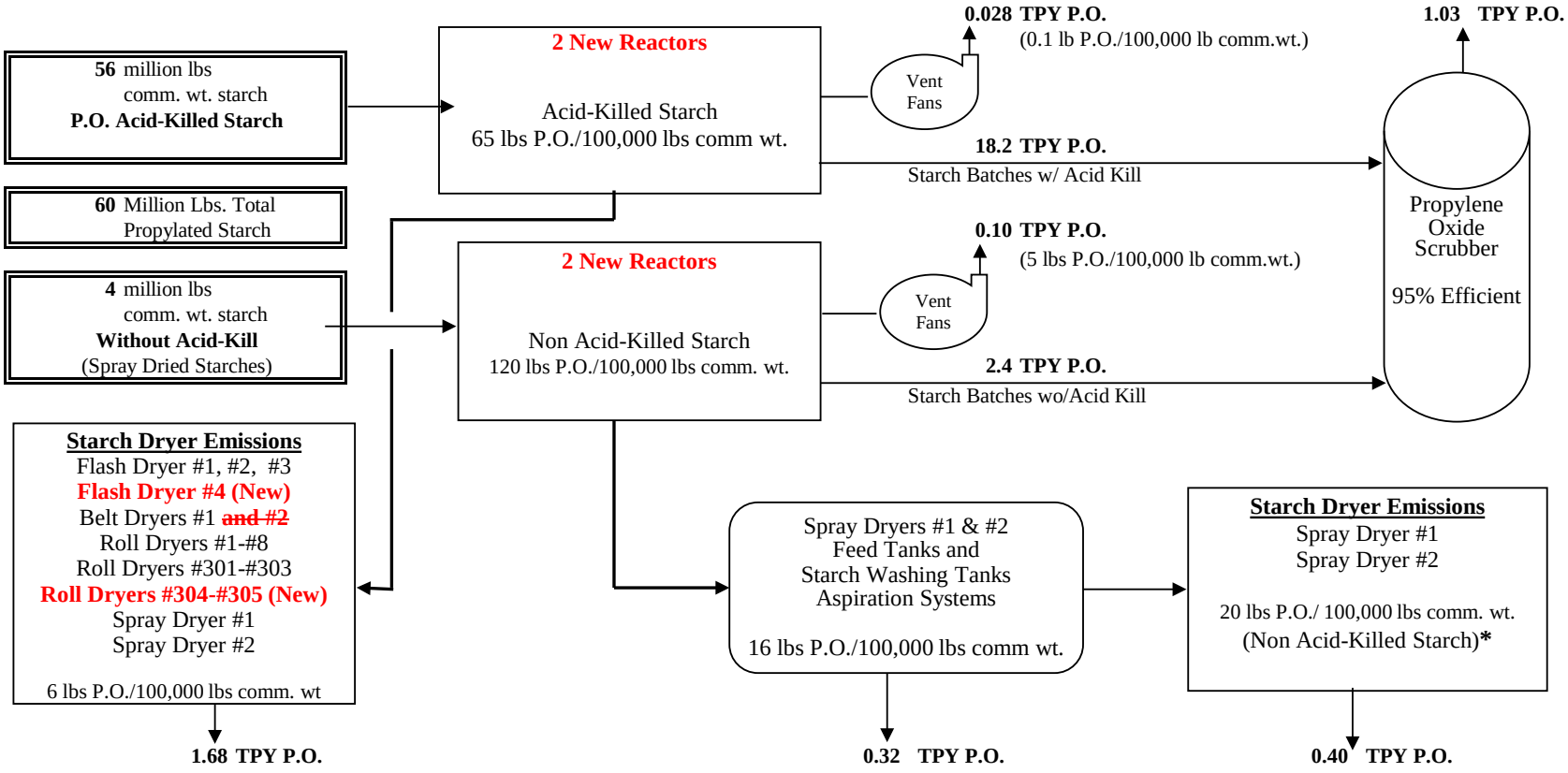
NOTE: Nominal 450 mmlbs/yr capacity stated in 2004 PSD Permit Application. Permit limits non-acid killed reactions to 1500 tons/yr P.O. usage which is approximately 30 million lbs/yr starch at 10% P.O. addition.

Total non-reactor controlled **14.44**

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Propylene Oxide (P.O.) Modified Starch Material Balance: 2 New Reactors



Total Uncontrolled P.O. Emissions	**23.13 TPY P.O.**
Total Controlled P.O. Emissions	**3.56 TPY P.O.**

*** Note: Non-acid killed batches may be rarely processed on other dryer systems. The same emission factor applies for these dryers.**

NOTE: Adding two P.O. reactors each with nominal 30 million lbs/yr capacity, 4 million lbs/yr of which is non-acid killed starch (total). Same ratio as current permit.

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

New Oxidized Starch Reactor (18V274) PTE Calculation Detail

Data Element	Data Designation	Value		Reference/Calculation
Molecular Weights				
Methanol	[A]	32	lb/lb-mol	
Ethanol	[B]	46	lb/lb-mol	
1-Propanol	[C]	60	lb/lb-mol	
Ethyl Acetate	[D]	88	lb/lb-mol	
Chloroform	[E]	119	lb/lb-mol	
1-Butanol	[F]	74	lb/lb-mol	
Molar Volumetric Gas Constant	[G]	385.3	ft3/lb-mol	Constant based on 68°F standard temperature
Exhaust Gas Average Temperature	[H]	68.3	F	As measured during 2/13/09 test
	[I]	20.17	C	([H] - 32 F) x (5 / 9)
Exhaust Gas Aveage Moisture	[J]	1.75%		As measured during 2/13/09 test
Exhaust Gas Average Flow Rate	[K]	1710.0	acfm	As measured during 2/13/09 test
	[L]	1709.0	scfm	[K] x ((460 F + 68 F)/(460 F + [I]))
	[M]	1680.1	dscfm	[L] x (1 - ([J] / 100))
Test (Batch) Time	[N]	606.0	minutes	2/13/09 test duration
Emission Rates				
Methanol	[O]	6.07	ppmdv	Average value during 2/13/09 test
	[P]	0.513	lb/batch	[O] x [K] x [A] x 60 min/hr / [G] x 1,000,000
Ethanol	[Q]	2.27	ppmdv	Average value during 2/13/09 test
	[R]	0.276	lb/batch	[Q] x [K] x [B] x 60 min/hr / [G] x 1,000,000
1-Propanol	[S]	3.04	ppmdv	Average value during 2/13/09 test
	[T]	0.482	lb/batch	[S] x [K] x [C] x 60 min/hr / [G] x 1,000,000
Ethyl Acetate	[U]	2.78	ppmdv	Average value during 2/13/09 test
	[V]	0.646	lb/batch	[U] x [K] x [E] x 60 min/hr / [G] x 1,000,000
Chloroform	[W]	47.5	ppmdv	Average value during 2/13/09 test
	[X]	14.9	lb/batch	[W] x [K] x [G] x 60 min/hr / [G] x 1,000,000
1-Butanol	[Y]	1.48	ppmdv	Average value during 2/13/09 test
	[Z]	0.289	lb/hr	[Y] x [K] x [I] x 60 min/hr / [G] x 1,000,000
Total VOC	[AA]	17.1	lb/batch	[P] + [R] + [T] + [V] + [X] + [Z]
Chloroform Measured in Slurry at End of Batch	[BB]	3.89	lb/batch	As measured during 2/13/09 test
Estimates of Other Species in Slurry at End of Batch				
Methanol	[CC]	0.116	lb/batch	([P] / [AA]) x [BB]
Ethanol	[DD]	0.063	lb/batch	([R] / [AA]) x [BB]
1-Propanol	[EE]	0.109	lb/batch	([T] / [AA]) x [BB]
Ethyl Acetate	[FF]	0.147	lb/batch	([V] / [AA]) x [BB]
1-Butanol	[GG]	0.066	lb/batch	([Z] / [AA]) x [BB]

New Oxidized Starch Reactor (18V274) PTE Calculation Detail

Data Element	Data Designation	Value		Reference/Calculation

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Chloroform Measured in Fitrate after Slurry is Filtered	[HH]	0.275	lb/batch	As measured during 11/6/08 test
Estimates of Other Species in Filtrate after Slurry is Filtered				
Methanol	[II]	0.008	lb/batch	([P] / [AA]) x [HH]
Ethanol	[JJ]	0.004	lb/batch	([R] / [AA]) x [HH]
1-Propanol	[KK]	0.008	lb/batch	([T] / [AA]) x [HH]
Ethyl Acetate	[LL]	0.010	lb/batch	([V] / [AA]) x [HH]
1-Butanol	[MM]	0.005	lb/batch	([Z] / [AA]) x [HH]
Total Emitted (Reaction + Drying)				
Chloroform	[NN]	18.6	lb/batch	[X] + [BB] - [HH]
Methanol	[OO]	0.621	lb/batch	[P] + [CC] - [II]
Ethanol	[PP]	0.334	lb/batch	[R] + [DD] - [JJ]
1-Propanol	[QQ]	0.584	lb/batch	[T] + [EE] - [KK]
Ethyl Acetate	[RR]	0.783	lb/batch	[V] + [FF] - [LL]
1-Butanol	[SS]	0.350	lb/batch	[Z] + [GG] - [MM]
Test Batch Size	[TT]	99463	lb comm. wt.	As measured during 2/13/09 test
Production Batch Size (per reactor)	[UU]	200000	lb comm. wt.	Design
Emission Factors				
Chloroform	[VV]	37.3	lb/100000 lbs comm. wt.	[NN] x [UU] / [TT]
Methanol	[WW]	1.250	lb/100000 lbs comm. wt.	[OO] x [UU] / [TT]
Ethanol	[XX]	0.672	lb/100000 lbs comm. wt.	[PP] x [UU] / [TT]
1-Propanol	[YY]	1.174	lb/100000 lbs comm. wt.	[QQ] x [UU] / [TT]
Ethyl Acetate	[ZZ]	1.574	lb/100000 lbs comm. wt.	[RR] x [UU] / [TT]
1-Butanol	[AAA]	0.705	lb/100000 lbs comm. wt.	[SS] x [UU] / [TT]
Total VOC	[BBB]	42.7	lb/100000 lbs comm. wt.	[VV] + WW + [XX] + [YY] + [ZZ] + [AAA]
Calculate 12-Month Total Emissions				
No. of Reactors	[CCC]	1		Design Basis
Batch Cycle Time (per reactor)	[DDD]	36	hours	Design (see attached batch schedule)
Hours/12-Month Period	[EEE]	8760	hours	Design
Cycles Per 12-Month Period	[FFF]	243.33	cycles	([EEE] / [DDD]) x [CCC])
Total Production Per 12 Month Period	[GGG]	48666667	lbs comm. wt.	[FFF] x [UU]
	[HHH]	24333	tons comm. wt.	
VOC Multiplier	[III]	1.1		Factor used to account for any unaccouted VOC species
Emission Rate				
Chloroform	[JJJ]	9077	lb/12-month period	([GGG] / [UU]) / [VV]
	[KKK]	4.54	Tons/12-month period	[JJJ] / ### lb/ton
Methanol	[LLL]	304.1	lb/12-month period	([GGG] / [UU]) / [WW]
	[MMM]	0.15	Tons/12-month period	[LLL] / ### lb/ton
VOC	[NNN]	11423	lb/12-month period	([GGG] / [UU]) / [BBB]
	[OOO]	5.71	Tons/12-month period	[NNN] / ### lb/ton

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Fugitive Emissions Summary

S/V ID	Emission Unit ID(s)	Emission Unit Description	Ref.	Emission Rates (TPY)						
				PM	PM10	PM2.5	SO2	NOx	CO	VOC
NA	NA	Building Fugitives	[1]				8.68			12.91
NA	NA	WWTP Fugitives	[2]							9.05
NA	NA	Paved Road Fugitives	[3]	12.34	2.47	0.61				
NA	NA	Truck Loadout Fugitives	[4]	2.14	0.52	0.10				
Total	With coal & ash trucks			14.48	2.98	0.70	8.68			21.96
Total	Without coal & ash trucks			13.92	2.87	0.68	8.68			21.96

Notes:

[1] Building Fugitive Emission Calculations
[2] Wastewater Treatment Plant Emission Calculations
[3] Particulate matter emission estimates for paved roads based on AP-42 emission factor equations
[4] Fugitive Dust Emissions from Corn Unloading & Feed Loadout

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Building Fugitive Emission Calculations [1]

Building/Structure	Building Dimensions			Building Volume (ft^3) [2]	Building Free Volume (ft^3) [3]	Air Temp. (F)	Actual Airflow (acf/hr) [4]	Standard Airflow (scf/hr) [5]	Emission Rates													
									Ethanol				Acetaldehyde				VOC		Sulfur Dioxide			
	Length (ft)	Width (ft)	Height (ft)						MW	ppm [6]	lb/hr [7]	ton/yr [8]	MW	ppm [6]	b/hr [7]	ton/yr [8]	b/hr [9]	ton/yr [9]	MW	ppm [6]	lb/hr [7]	ton/yr [8]
Steephouse																						
14 Building	169	47	60	476,580																		
14 Bldg Annex	60	50	60	180,000																		
Total				656,580	492,435	70	2,954,610	2,742,770	46	5.0	1.76	7.70	44	0.1	0.03	0.15	1.79	7.84	64	3.0	1.47	6.42
Millhouse - 15 Bldg																						
Area 1	66	66	80	348,480																		
Area II	53	66	60	209,880																		
Area III	40	66	40	105,600																		
Total				663,960	497,970	70	2,987,820	2,773,599	46	1.0	0.36	1.56	44	0.1	0.03	0.15	0.39	1.71	64	1.0	0.49	2.17
Refinery																						
Bldg 18	144	144	40	829,440																		
Bldg 18A	106	75	40	318,000																		
Bldg 18B	50	50	40	100,000																		
Bldg 18C	34	44	40	59,840																		
Total				1,307,280	980,460	70	5,882,760	5,460,977	46	1.0	0.70	3.06	44	0.1	0.07	0.29	0.77	3.36	64	0.02	0.02	0.09
Feedhouse - 21 Bldg																						
Area I	156	19	40	118,560																		
Area II	156	25	80	312,000																		
Area III	156	44	80	549,120																		
Total				979,680	734,760	70	4,408,560	4,092,475	46	1.0	0.52	2.30	44	0.3	0.15	0.66	0.67	2.96	64	0.1	0.07	0.32
Total											**2.81**	**12.32**			**0.13**	**0.59**	**2.95**	**12.91**			**1.98**	**8.68**

Notes:

[1] Basis for Estimating Fugitive Air Flow From Buildings:
Mark's Mechanical Engineers Handbook (1951), Table 18, p. 1620 indicates the number of airchanges/hour for the following sources: Factories=2-4; Public Lavatories=10-20; Smoking Rooms=10-20; Commercial Laundries=10-30.
EPA Guidelines for Greenhouse Pesticide Use (40 CFR 170.110) indicates greenhouses using fans or other mechanical ventilating systems should be safe to enter after two hours (10 total air changes or 5 airchanges per hour).
OSHA Laboratory Guidelines (29 CFR 1910.1450 Appendix A recommends 4-12 room air changes per hour
National Fire Protection Association Guide for vegetable oil extraction plants (NFPA 36 - Standard for Solvent Extraction Plants - 1977) recommends at section 5-3.1 that "Enclosed plants shall have sufficient ventilation to change the volume of air at least six times per hour".
Since vegetable oil extraction is associated with corn wet milling, a factor of six air changes per hour is deemed appropriate for fugitive emission calculations.

[2] Building Volume calculated using CAD.

[3] Building Volume x 0.75 [Basis for free volume is that 25% of Buildings are occupied by equipment (75% open air space)]

[4] Building Free Volume x 6 Air Changes per Hour (see Note [1])

[5] Actual Air Flow x [492/(460 + Air Temp.)] [Standard temperature used: 32 F (460 K)]

[6] Basis for Concentration Values Used in Building Fugitives Calculations Emission calculations are based on fugitive emissions monitoring following the 2006 plant expansion.

[7] [(ppm/1,000,000) x Standard Airflow x MW]/359 scf/lb mole

[8] lb/hr x 8760 hr/yr/2000 lb/ton

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Basis for Concentration Values Used in Building Fugitives Calculations

Sampling Location		Test Date	Tester	Emission Rate (ppm)					
				Ethanol [3]		Acetaldehyde [3]		Sulfur Dioxide [3]	
Steephouse									
	1st Floor	7/1/08	[1]	0.7	*	0.05	*	2.5	
		8/13/08	[2]	0.372			*	1	
		8/14/08	[2]	0.365			*	1	
	3rd Floor	7/1/08	[1]	0.6	*	0.08	*	0.061	
		8/13/08	[2]	3.097			*	1	
		8/14/08	[2]	0.865			*	1	
	Maximum Value			3.097		0.08		2.5	
	Value Used			5		0.1		3	
Millhouse									
	1st Floor	7/1/08	[1]	0.6	*	0.06	*	0.12	
		8/13/08	[2]	0.508			*		*
		8/14/08	[2]	0.625			*		*
	2nd Floor	7/1/08	[1]	0.7	*	0.06	*	0.23	
		8/13/08	[2]	0.329			*	1	
		8/14/08	[2]	0.435			*		*
	Maximum Value			0.7		0.06		1	
	Value Used			1		0.1		1	
Refinery									
	1st Floor (Separator Feed Tank	7/1/08	[1]	0.6	*	0.05	*	0.014	
	1st Floor (Tank Room)	7/1/08	[1]	0.6	*	0.05	*	0.0066	
		8/13/08	[2]		*		*		*
		8/14/08	[2]	0.023			*		*
	2nd Floor	7/1/08	[1]	0.7	*	0.05	*	0.0075	
		8/13/08	[2]		*		*		*
		8/14/08	[2]	0.069			*		*
	Maximum Value			0.7		0.05		0.014	
	Value Used			1		0.1		0.02	
Feedhouse									
	1st Floor	7/1/08	[1]	0.9	*	0.08	*	0.092	
		8/13/08	[2]	0.75		0.252			*
		8/14/08	[2]	0.08			*		*
	2nd Floor	7/1/08	[1]	0.4	*	0.07		0.049	
	Maximum Value			0.9		0.252		0.092	
	Value Used			1		0.3		0.1	

Notes:
[1] Certified Enfironmetnal Management, LTD.
[2] Tate & Lyle Internal Testing
[3] An asterisk (*) indicates a non-detect value. The value listed is the detection limit of the instrument.

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Wastewater Treatment Plant Emission Calculations

Data Element	Data	Value		Reference/Calculation
Annual Operating Hours	[A]	8760	hrs	Design Value
Sagamore Waste Treatment Surface Areas				
South Aeration Basis - Water Area				
Length	[B]	187.5	ft	Design Value
Width	[C]	127.5	ft	Design Value
Surface Area	[D]	23906.25	ft2	[B] x [C]
South Aeration Basin Corner Area				
Length	[E]	107.50	ft	Design Value
Width	[F]	107.50	ft	Design Value
Diameter	[G]	107.50	ft	Design Value
Surface Area	[H]	2479.99	ft2	([E] x [F]) - (π x ([G] ^{2} / 4))
South Aeration Basin - Total Water Are	[I]	21426.26	ft2	[D] - [H]
North Aeration Basin - Total Water Are	[J]	21426.26	ft2	[I]
Clarifier				
Diameter	[K]	90	ft	Design Value
Surface Area	[L]	6361.73	ft2	π x ([K] ^{2} / 4)
Total Surface Area	[M]	49214.24	ft2	[I] + [J] + [L]
Emission Factors				
Acetaldehyde	[N]	1.50E-05	lb/ft2/hr	Highest of three analyses for East EQ tank at the Decatur Plant used. Overestimates since a BVF is sued for equalization at the Sagamore Plant. The East EQ rte expected to be highest VOC emission rate for any waste treatmetn tank at either the Sagamore or Decatur Plants.
Ethanol	[O]	2.70E-05	lb/ft2/hr	
Emission Rates				
Acetaldehyde	[P]	0.74	lb/hr	[M] x [N]
	[Q]	3.23	TPY	[P] x [A] / 2000 lb/ton
Ethanol	[R]	1.33	lb/hr	[M] x [O]
	[S]	5.82	TPY	[R] x [A] / 2000 lb/ton
VOC	[T]	2.07	lb/hr	[P] + [R]
	[U]	9.05	TPY	[Q] + [S]

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Calculation of Vehicle Miles Travelled (VMT) per Truck Type

Truck Type	Status	Segment	Segment Length	
			feet	miles [1]
Corn	Full	R1	348	0.066
		R2	518	0.098
		R3	582	0.110
		R4	883	0.167
		R5	882	0.167
		R9	298	0.056
		Total	3511	0.665
	Empty	R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R2	518	0.098
		Total	2606	0.49
Feed/Germ/ Meal	Full	R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R2	518	0.098
		Total	2606	0.49
	Empty	R1	348	0.066
		R2	518	0.098
		R3	582	0.110
		R4	883	0.167
		R5	882	0.167
		R9	298	0.056
		Total	3511	0.665
Syrup	Full	R4	883	0.167
		R5	882	0.167
		R9	298	0.056
		R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R1	348	0.066
		Total	4499	0.852
	Empty	R1	348	0.066
		R2	518	0.098
		R3	582	0.110
		Total	1448	0.274

Truck Type	Status	Segment	Segment Length	
			feet	miles [1]
Chemical [3]	Full	R1	348	0.066
		R2	518	0.098
		R3	582	0.110
		R4	883	0.167
		R6	381	0.072
		R7	227	0.043
		Total	2939	0.557
	Empty	R7	227	0.043
		R6	381	0.072
		R5	882	0.167
		R9	298	0.056
		R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R1	348	0.066
		Total	4224	0.800
Coal	Full	R1	348	0.066
		R2	518	0.098
		R3	582	0.110
		R4	883	0.167
		Total	2331	0.441
	Empty	R4	883	0.167
		R5	882	0.167
		R9	298	0.056
		R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R1	348	0.066
		Total	4499	0.852
Ash [4]	Full	R6	381	0.072
		R5	882	0.167
		R9	298	0.056
		R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R1	348	0.066
		Total	3997	0.757

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Bulk Starch	Full	R4	883	0.167
		R5	882	0.167
		R9	298	0.056
		R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R1	348	0.066
		Total	4499	0.852
	Empty	R1	348	0.066
		R2	518	0.098
		R3	582	0.110
		Total	1448	0.274
Starch Warehouse	Full	R12	130	0.025
		R13	172	0.033
		R2	518	0.098
		R1	348	0.066
		Total	1168	0.221
	Empty	R1	348	0.066
		R2	518	0.098
		R13	172	0.033
		R14	668	0.127
		Total	1706	0.323

Waste [2]	Full	R5	882	0.167
		R9	298	0.056
		R10	702	0.133
		R14	668	0.127
		R15	200	0.038
		R2	518	0.098
		R1	348	0.066
		Total	3616	0.685
	Empty	R1	348	0.066
		R2	518	0.098
		R3	582	0.110
		R4	883	0.167
		R5	882	0.167
		Total	3213	0.609

Notes:

[1] Segment Lenth (feet) / 5280 ft/mile

[2] Assume all waste trucks have identical routes.

[3] Assume all chemical trucks have identical routes.

[4] Assume ash is hauled by incoming coal trucks therefore no empty ash truck route.

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Particulate matter emission estimates for paved roads based on AP-42 emission factor equations

Type of Truck	Status	Number of trips per day [6]	Vehicle Weight (ton) [7]	Silt Loading (g/m^2) [1]	VMT per trip (ft)	VMT per trip (mile) [8]	$PM_{2.5}$ (lb/VMT) [1]	PM Emission Rate (lb/day) [2]	PM Emission Rate (ton/yr) [3]	PM_{10} (lb/VMT) [1]	PM_{10} Emission Rate (lb/day) [2]	PM_{10} Emission Rate (ton/yr) [3]	PM (lb/VMT) [1]	$PM_{2.5}$ Emission Rate (lb/day) [2]	$PM_{2.5}$ Emission Rate (ton/yr) [3]
Corn	Full	98.2	40	1.1	3790	0.66	0.47	30.97	5.65	0.09	6.19	1.13	0.02	1.52	0.28
Corn	Empty	98.2	12.5	1.1	2385	0.49	0.14	7.02	1.28	0.029	1.40	0.26	0.01	0.34	0.06
Feed/Germ/Meal	Full	54.5	40	1.1	3790	0.49	0.47	12.76	2.33	0.095	2.55	0.47	0.023	0.63	0.11
Feed/Germ/Meal	Empty	54.5	12.5	1.1	2385	0.66	0.14	5.25	0.96	0.029	1.05	0.19	0.007	0.26	0.05
Syrup	Full	0.2	40	1.1	3205	0.85	0.47	0.08	0.02	0.095	0.02	0.00	0.023	0.00	0.00
Syrup	Empty	0.2	15	1.1	3285	0.27	0.17	0.01	0.00	0.035	0.00	0.00	0.009	0.00	0.00
Bulk Starch	Full	2.9	35	1.1	4245	0.85	0.41	1.04	0.19	0.083	0.21	0.04	0.020	0.05	0.01
Bulk Starch	Empty	2.9	15	1.1	1735	0.27	0.17	0.14	0.03	0.035	0.03	0.01	0.009	0.01	0.00
Starch Warehouse	Full	64.6	20	1.1	1470	0.22	0.23	3.34	0.61	0.047	0.67	0.12	0.011	0.16	0.03
Starch Warehouse	Empty	64.6	5	1.1	1470	0.32	0.06	1.19	0.22	0.011	0.24	0.04	0.003	0.06	0.01
Chemicals	Full	5.4	40	1.1	3205	0.56	0.47	1.43	0.26	0.095	0.29	0.05	0.023	0.07	0.01
Chemicals	Empty	5.4	15	1.1	3285	0.80	0.17	0.75	0.14	0.035	0.15	0.03	0.009	0.04	0.01
Coal	Full	8.5	40	1.1	2985	0.44	0.47	1.77	0.32	0.095	0.35	0.06	0.023	0.09	0.02
Coal	Empty	8.5	12.5	1.1	3065	0.85	0.14	1.04	0.19	0.029	0.21	0.04	0.007	0.05	0.01
Ash	Full	0.8	40	1.1	3065	0.76	0.47	0.27	0.05	0.095	0.05	0.01	0.023	0.01	0.00
Waste	Full	2.2	20	1.1		0.68	0.23	0.35	0.06	0.047	0.07	0.01	0.011	0.02	0.00
Waste	Empty	2.2	12.5	1.1	3065	0.61	0.14	0.19	0.04	0.029	0.04	0.01	0.007	0.01	0.00
Total								**67.61**	**12.34**		**13.52**	**2.47**		**3.32**	**0.61**
Total without Coal & Ash Trucks								**64.52**	**11.78**		**12.90**	**2.36**		**3.17**	**0.58**

Notes:

[1] Emission factor equation taken from AP-42 Section 13.2.1.3 Paved Roads (published 1/11).

$$E_{ext} = [\ k\ (sL)^{0.91} \times (W)^{1.02}\ ]\ (1 - P/4N)$$

where:

E_{ext} = Emission rate in lb/Vehicle Mile Travelled (VMT)
k = 0.011 lb/VMT for PM (Table 13.2.1-1 Particle Size Multipliers for Paved Road Equation)
k = 0.0022 lb/VMT for PM10 (Table 13.2.1-1 Particle Size Multipliers for Paved Road Equation)
k = 0.00054 lb/VMT for PM2.5 (Table 13.2.1-1 Particle Size Multipliers for Paved Road Equation)
sL = Silt loading = 1.1 g/m2 (Table13.2.1-3 mean valuee for corn wet mills
W = Average truck weight (tons) for vehicles on each Route (road segment).
P = Number of "wet" days with at least 0.01 in. of precipitation = 120
N = 365 days

[2] Emission Rate (lb/VMT) x VMT/Trip (miles) x Number of Trips/Day
[3] Emission Rate (lb/day) x 365 days/year/2000 lb/ton
[4] Number of Trips/Day x Vehicle Weight (ton)
[5] Total Weight (ton)/Number of Trips/Day
[6] Number of truck loads provided by D. Copeland
[7] Data taken from Iowa fugitive emission estimates & data from Sagamore Main Gate.
[8] Calculation of Vehicle Miles Travelled (VMT) per Truck Type

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Fugitive Dust Emissions from Corn Unloading & Feed Loadout

Type of Activity	Material Transferred (tons/day)	PM				PM_{10}				$PM_{2.5}$			
		Emission Factor (lb/ton) [3]	Uncontrolled (lb/day) [4]	Controlled (lb/day) [5]	Controlled (ton/yr) [6]	Emission Factor (lb/ton) [3]	Uncontrolled (lb/day) [4]	Controlled (lb/day) [5]	Controlled (ton/yr) [6]	Emission Factor (lb/ton) [3]	Uncontrolled (lb/day) [4]	Controlled (lb/day) [5]	Controlled (ton/yr) [6]
Corn Unloading Straight Trucks [1]	112	0.18	20.2	2.02	0.37	0.059	6.6	0.66	0.12	0.010	1.1	0.11	0.02
Corn Unloading Hopper Trucks [2]	2,688	0.035	94.1	9.41	1.72	0.0078	21.0	2.10	0.38	0.0013	3.5	0.35	0.06
Feed/Meal/Germ Truck Loadout	952	0.0033	3.1	0.31	0.06	0.0008	0.8	0.08	0.01	0.0008	0.8	0.08	0.01
TOTAL					**2.14**				**0.52**				**0.10**

Notes:

[1] Emission factors taken from AP-42 Table 9.9.1-1 - Particulate Emission Factors for Grain Elevators, Grain Receiving, Straight truck (SCC 3-02-005-51)(Rev 3/03). Emission factor does not include control equipment. A capture/control efficiency of 90% is assumed. If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day if each truck is approximately 800 bushels. Of this total, only 5 of the trucks are straight trucks. The remaining trucks are hopper trucks. Note that corn is also received in hopper railcars; however, emission factors are less for rail than for truck. Therefore, all grain is assumed to either be received by straight truck or hopper truck.

[2] Emission factors taken from AP-42 Table 9.9.1-1 - Particulate Emission Factors for Grain Elevators, Grain Receiving, Hopper truck (SCC 3-02-005-52)(Rev 3/03). Emission factor does not include control equipment. A capture/control efficiency of 90% is assumed. If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day if each truck is approximately 800 bushels. Of this total, 120 of the trucks are hopper trucks. The remaining 5 trucks are straight trucks. Note that corn is also received in hopper railcars; however, emission factors are less for rail than for truck. Therefore, all grain is assumed to either be received by straight truck or hopper truck.

[3] Emission factors taken from AP-42 Table 9.9.1-2, Particulate Emission Fators for Grain Processing Facilities, Animal Feed Mills, Feed Shipping (SCC 3-02-008-03)(Rev 3/03). PM2.5 assumed equal to PM10. Emission Factor does not include control equipment. A capture/control efficiency of 90% was assumed. This estimate assumes all product is sold in trucks.

[4] Material Transferred (tons/day) x Emission Factor (lb/ton)

[5] Uncontrolled (lb/day) x (1 - (Control Efficiency (%) / 100))

[6] Controlled (lb/day) x 365 day/yr / 2000 lb/ton

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

CoGen Boiler (31B1) Natural Gas Conversion Emissions Summary

Coal Boiler Baseline Actual Emissions (tpy)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs
20.74	68.43	58.02	511.30	369.13	5.00	2.17	5.11	0.22	1.54E-03	167,442

Coal Boiler Post Natural Gas Conversoin PTE (tpy)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs
1.88	7.54	7.54	0.60	101.18	70.82	5.46	5.95E-03	0.00	0.00	118,381

Coal Boiler Support Facility Equipment Shutdown BAE (tpy)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs
0.38	0.38	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Coal Boiler Natural Gas Conversoin Creditable Emissions Increases/Decreases (tpy)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	H_2SO_4	F	Pb	GHGs
-19.23	-61.27	-50.75	-510.71	-267.95	65.82	3.29	-5.11	-0.22	-1.54E-03	-49,062

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

CoGen Boiler Baseline Actual Emissions (BAE)

Data Element		Data Designation	Value		Reference/Calculation
Baseline Periods					
	1 - NOx		1/2007 - 12/2008		See: Coal Boiler Production and CEM Data
	2 - SO2		8/2006 - 7/2008		
	3 - All Other Pollutants		10/2009 - 9/2011		
Baseline Coal Boiler Productoin Data					
	Coal Usage	[A]	72,325	tons/yr	Baseline Period 3; see: Coal Boiler Production and CEM Data
	Coal Usage	[B]	1,613,806	mmBtu/yr	Baseline Period 3; see: Coal Boiler Production and CEM Data
	Coal Average HHV	[C]	11,158	Btu/lb	Baseline Period 3; see: Coal Boiler Production and CEM Data
Emission Factors					
	PM Filterable	[D]	0.0257	lb/mmBtu	Average of Airtech Test Report 2824 (10/08), 3045B (9/09) & 4315B (10/13)
	PM Condensable	[E]	0.0591	lb/mmBtu	Airtech Test Report 3045B (9/09)
	PM10	[F]	0.0848	lb/mmBtu	= [D] + [E]
	PM2.5 Filterable	[G]	0.0128	lb/mmBtu	Airtech Test Report 3045B (9/09)
	PM2.5	[H]	0.0719	lb/mmBtu	= [G] + [E]
	CO	[I]	0.0062	lb/mmBtu	Airtech Test Report 3045B (9/09)
	VOC	[J]	0.06	lb/ton	AP-42, Table 1.1-19 (9/98)
	F	[K]	2.71E-04	lb/mmBtu	Airtech Test Report 3045B (9/09)
	Pb	[L]	1.91E-06	lb/mmBtu	Airtech Test Report 3045B (9/09)
	GHGs (CO2e)	[M]	207.51	lb/mmBtu	40 CFR 98 Subpart C, Tables C-1 and C-2
Emissions					
	PM	[N]	20.74	tpy	= [D] * [B] / 2,000 lb/ton
	PM10	[O]	68.43	tpy	= [F] * [B] / 2,000 lb/ton
	PM2.5	[P]	58.02	tpy	= [H] * [B] / 2,000 lb/ton
	SO2	[Q]	511.3	tpy	See: Coal Boiler Production and CEM Data
	NOx	[R]	369.1	tpy	See: Coal Boiler Production and CEM Data
	CO	[S]	5.00	tpy	= [I] * [B] / 2,000 lb/ton
	VOC	[T]	2.17	tpy	= [J] * [A] / 2,000 lb/ton
	H2SO4	[U]	5.11	tpy	= [Q] * 0.01
	F	[V]	0.22	tpy	= [K] * [B] / 2,000 lb/ton
	Pb	[W]	0.002	tpy	= [L] * [B] / 2,000 lb/ton
	GHGs (CO2e)	[X]	167,442	tpy	= [M] * [B] / 2,000 lb/ton

Post-conversion CoGen Boiler Potential to Emit (PTE)

Data Element		Data Designation	Value		Reference/Calculation
Design Heat Input Capacity		[A]	231	mmBtu/hr	Boiler design specification
Natural Gas HHV		[B]	1,020	Btu/cf	Default value from AP-42 Chapter 1.4 (7/98)
Emission Factors					
	PM Filterable	[C]	0.0019	lb/mmBtu	AP-42, Table 1.4-2 (7/98)
	PM Condensable	[D]	0.0056	lb/mmBtu	AP-42, Table 1.4-2 (7/98)
	PM10	[E]	0.0075	lb/mmBtu	AP-42, Table 1.4-2 (7/98)
	PM2.5	[F]	0.0075	lb/mmBtu	AP-42, Table 1.4-2 (7/98)
	SO2	[G]	5.88E-04	lb/mmBtu	AP-42, Table 1.4-2 (7/98)
	NOx	[H]	0.10	lb/mmBtu	Burner design specification
	CO	[I]	0.07	lb/mmBtu	Burner design specification
	VOC	[J]	0.0054	lb/mmBtu	AP-42, Table 1.4-2 (7/98)
	GHGs (CO2e)	[K]	117.0	lb/mmBtu	40 CFR 98 Subpart C, Tables C-1 and C-2
Potential Emissions					
	PM	[L]	1.88	tpy	= [C] * [A] * 8,760 hrs/yr / 2,000 lb/ton
	PM10	[M]	7.54	tpy	= [E] * [A] * 8,760 hrs/yr / 2,000 lb/ton
	PM2.5	[N]	7.54	tpy	= [F] * [A] * 8,760 hrs/yr / 2,000 lb/ton
	SO2	[O]	0.60	tpy	= [G] * [A] * 8,760 hrs/yr / 2,000 lb/ton
	NOx	[P]	101.18	tpy	= [H] * [A] * 8,760 hrs/yr / 2,000 lb/ton
	CO	[Q]	70.82	tpy	= [I] * [A] * 8,760 hrs/yr / 2,000 lb/ton
	VOC	[R]	5.46	tpy	= [J] * [A] * 8,760 hrs/yr / 2,000 lb/ton
	H2SO4	[S]	0.006	tpy	= [O] * 0.01
	GHGs (CO2e)	[T]	118,381	tpy	= [K] * [A] * 8,760 hrs/yr / 2,000 lb/ton

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

CoGen Boiler Support Facilities Baseline Actual Emissions (BAE)

Data Element	Data Designation	Value		Reference/Calculation
Baseline Period		10/2009 - 9/2011		See: Coal Boiler Production and CEM Data
Coal Boiler Coal Usage	[A]	72,325	tons/yr	See: Coal Boiler Production and CEM Data
Coal Boiler Operating Hours	[B]	8,428	hrs/yr	Average annual hours of operation for baseline period
Coal Storage Silo (31V3)				
Coal Unloading Rate to Silo	[C]	40	tons/hr	Design value
Operating Hours	[D]	1,808	hrs/yr	= [A] / [C]
Bin Vent Air Flow	[E]	1,200	acfm	Design value
Bin Vent Exhaust Loading	[F]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/acf
PM2.5 / PM10 Ratio	[G]	0.72581		Ratio for SCC 30101401
Emissions				
PM	[H]	0.22	tons/yr	= [F] * [E] * 60 min/hr * [B] / 7,000 gr/lb / 2,000 lb/ton
PM10	[I]	0.22	tons/yr	= [H
PM2.5	[K]	0.16	tons/yr	= [I] * [G]
Coal Storage Day Bin (31V4)				
Operating Hours	[L]	904	hrs/yr	= [D] / 2
Bin Vent Air Flow	[M]	800	acfm	Design value
Bin Vent Exhaust Loading	[N]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/acf
PM2.5 / PM10 Ratio	[O]	0.72581		Ratio for SCC 30101401
Emissions				
PM	[P]	0.02	tons/yr	= [N] * [M] * 60 min/hr * [L] / 7,000 gr/lb / 2,000 lb/ton
PM10	[Q]	0.02	tons/yr	= [P]
PM2.5	[R]	0.01	tons/yr	= [Q] * [O]
Coal Storage Day Bin (31V5)				
Operating Hours	[S]	904	hrs/yr	= [D] / 2
Bin Vent Air Flow	[T]	800	acfm	Design value
Bin Vent Exhaust Loading	[U]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/acf
PM2.5 / PM10 Ratio	[V]	0.72581		Ratio for SCC 30101401
Emissions				
PM	[W]	0.02	tons/yr	= [U] * [T] * 60 min/hr * [S] / 7,000 gr/lb / 2,000 lb/ton
PM10	[X]	0.02	tons/yr	= [W]
PM2.5	[Y]	0.01	tons/yr	= [X] * [V]
Ash Silo (31V1)				
Operation	[Z]	3.0	hrs/day	Ash pulled from boiler for 3 hours each day of operation
Operating Hours	[AA]	1,053	hrs/yr	= [B] / 24 hrs/d * [Z]
Bin Vent Air Flow	[BB]	1,000	acfm	Design value
Bin Vent Exhaust Loading	[CC]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/acf
PM2.5 / PM10 Ratio	[DD]	0.82979		Ratio for SCC 30201401
Emissions				
PM	[EE]	0.02	tons/yr	= [CC] * [BB] * 60 min/hr * [AA] / 7,000 gr/lb / 2,000 lb/ton
PM10	[FF]	0.02	tons/yr	= [EE]
PM2.5	[GG]	0.02	tons/yr	= [EE] * [DD]
Boiler Ash Transfer Jet (31Z3)				
Operation	[HH]	3.0	hrs/day	Ash pulled from boiler for 3 hours each day of operation
Operating Hours	[II]	1,053	hrs/yr	= [B] / 24 hrs/d * [HH]
Bin Vent Air Flow	[JJ]	2,100	acfm	Design value
Bin Vent Exhaust Loading	[KK]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/acf
PM2.5 / PM10 Ratio	[LL]	0.82979		Ratio for SCC 30201401
Emissions				
PM	[MM]	0.05	tons/yr	= [KK] * [JJ] * 60 min/hr * [II] / 7,000 gr/lb / 2,000 lb/ton
PM10	[NN]	0.05	tons/yr	= [MM]
PM2.5	[OO]	0.04	tons/yr	= [NN] * [LL]
GMH Starch Storage Silo (9V32				
Operating Hours	[PP]	8,322	hrs/yr	= Annual average hours of operation, 95% uptime
Bin Vent Air Flow	[QQ]	350	acfm	Design value
Bin Vent Exhaust Loading	[RR]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/acf
PM2.5 / PM10 Ratio	[SS]	0.56962		Ratio for SCC 30299998
Emissions				
PM	[TT]	0.06	tons/yr	= [RR] * [QQ] * 60 min/hr * [PP] / 7,000 gr/lb / 2,000 lb/ton
PM10	[UU]	0.06	tons/yr	= [TT]
PM2.5	[VV]	0.04	tons/yr	= [UU] * [SS]
Utilities Lime Storage Silo (31V10)				
Operating Hours	[WW]	20	hrs/yr	= Annual average hours of operation
Bin Vent Air Flow	[XX]	675	acfm	Design value
Bin Vent Exhaust Loading	[YY]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/acf
PM2.5 / PM10 Ratio	[ZZ]	0.72581		Ratio for SCC 30201401
Emissions				
PM	[AAA]	0.00	tons/yr	= [YY] * [XX] * 60 min/hr * [WW] / 7,000 gr/lb / 2,000 lb/ton
PM10	[BBB]	0.00	tons/yr	= [AAA]
PM2.5	[CCC]	0.00	tons/yr	= [BBB] * [ZZ]

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Total Emissions					
	PM		0.38	tons/yr	
	PM10		0.38	tons/yr	
	PM2.5		0.27	tons/yr	

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

CoGen (Coal) Boiler Production and CEM Data

Month	Coal tons	HHV Btu/lb	Coal MMBtu	Coal MMBtu 24-month Annual Avg.	SO2 lb/MMBtu	SO2 tons	SO2 tons 24-month Annual Avg.	NOx lb/MMBtu	NOx tons	NOx tons 24-month Annual Avg.
Jan 04										
Feb 04										
Mar 04										
Apr 04										
May 04										
Jun 04										
Jul 04	5,445	11,183	121,783							
Aug 04	5,532	11,195	123,861							
Sept 04	4,177	11,194	93,515							
Oct 04	4,645	11,171	103,779							
Nov 04	6,072	11,149	135,393							
Dec 04	6,052	11,149	134,947							
Jan 05	6,707	11,150	149,566		0.643	48.09		0.489	36.57	
Feb 05	5,746	11,145	128,078		0.614	39.32		0.4	25.62	
Mar 05	6,603	11,105	146,653		0.54	39.60		0.485	35.56	
Apr 05	5,121	11,114	113,830		0.563	32.04		0.465	26.47	
May 05	5,761	11,124	128,171		0.574	36.78		0.515	33.00	
Jun 05	5,475	11,153	122,125		0.555	33.89		0.509	31.08	
Jul 05	5,467	11,210	122,570		0.522	31.99		0.509	31.19	
Aug 05	5,733	11,124	127,548		0.542	34.57		0.537	34.25	
Sept 05	4,975	11,083	110,276		0.537	29.61		0.492	27.13	
Oct 05	5,007	11,130	111,456		0.606	33.77		0.414	23.07	
Nov 05	5,614	11,010	123,620		0.591	36.53		0.481	29.73	
Dec 05	6,453	11,032	142,379		0.617	43.92		0.57	40.58	
Jan 06	6,197	11,059	137,065		0.564	38.65		0.455	31.18	
Feb 06	5,490	11,040	121,219		0.581	35.21		0.498	30.18	
Mar 06	6,765	11,052	149,534		0.601	44.93		0.401	29.98	
Apr 06	5,271	11,132	117,354		0.616	36.14		0.452	26.52	
May 06	6,367	11,113	141,513		0.595	42.10		0.453	32.05	
June 06	5,693	11,038	125,679	1,515,957	0.619	38.90	338	0.489	30.73	277
Jul 06	5,129	11,086	113,720	1,511,925	0.683	38.84	357	0.487	27.69	291
Aug 06	5,702	11,053	126,048	1,513,019	0.726	45.76	380	0.385	24.26	303
Sept 06	5,365	11,080	118,888	1,525,706	0.662	39.35	400	0.445	26.45	317
Oct 06	6,204	11,028	136,835	1,542,234	0.666	45.57	423	0.49	33.52	333
Nov 06	5,435	11,018	119,766	1,534,420	0.73	43.71	445	0.373	22.34	345
Dec 06	2,797	11,029	61,696	1,497,795	0.571	17.61	453	0.484	14.93	352
Jan 07	6,098	11,049	134,754	1,490,388	0.647	43.59	451	0.458	30.86	349
Feb 07	6,138	11,066	135,846	1,494,272	0.604	41.03	452	0.45	30.57	352
Mar 07	5,990	11,045	132,319	1,487,105	0.582	38.50	452	0.409	27.06	347
Apr 07	5,410	10,993	118,944	1,489,663	0.628	37.35	454	0.483	28.73	349
May 07	6,119	11,091	135,732	1,493,443	0.651	44.18	458	0.464	31.49	348
June 07	5,170	11,121	114,991	1,489,876	0.57	32.77	457	0.393	22.60	344
Jul 07	5,823	11,134	129,667	1,493,424	0.557	36.11	459	0.444	28.79	342
Aug 07	5,420	11,141	120,768	1,490,035	0.614	37.08	461	0.377	22.76	337
Sept 07	5,479	11,117	121,820	1,495,807	0.584	35.57	464	0.403	24.55	335
Oct 07	5,422	11,152	120,932	1,500,545	0.658	39.79	467	0.445	26.91	337
Nov 07	5,476	11,223	122,914	1,500,192	0.755	46.40	472	0.494	30.36	338
Dec 07	5,562	11,202	124,611	1,491,308	0.671	41.81	470	0.583	36.32	335
Jan 08	5,760	11,162	128,586	1,487,069	0.737	47.38	475	0.632	40.63	340
Feb 08	5,698	11,162	127,202	1,490,060	0.917	58.32	486	0.563	35.81	343
Mar 08	5,885	11,185	131,647	1,481,117	0.772	50.82	489	0.572	37.65	347
Apr 08	6,695	11,236	150,450	1,497,665	0.675	50.78	497	0.497	37.39	352
May 08	5,259	11,256	118,391	1,486,104	0.717	42.44	497	0.491	29.06	351
June 08	6,023	11,289	135,987	1,491,258	0.836	56.84	506	0.496	33.72	352
Jul 08	5,652	11,261	127,294	1,498,045	0.783	49.84	511	0.524	33.35	355
Aug 08	5,589	11,232	125,551	1,497,797	0.691	43.38	510	0.548	34.40	360
Sept 08	5,944	11,233	133,538	1,505,122	0.584	38.99	510	0.541	36.12	365
Oct 08	4,094	11,216	91,837	1,482,622	0.56	25.71	500	0.491	22.55	359
Nov 08	4,909	11,187	109,834	1,477,656	0.557	30.59	493	0.455	24.99	361

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Dec 08	6,401	11,193	143,293	1,518,455	0.548	39.26	504	0.441	31.60	369
Jan 09	5,551	11,196	124,298	1,513,227	0.465	28.90	497	0.442	27.47	367
Feb 09	5,912	11,267	133,221	1,511,914	0.514	34.24	494	0.397	26.44	365
Mar 09	6,071	11,243	136,513	1,514,011	0.561	38.29	493	0.437	29.83	367
Apr 09	6,161	11,154	137,440	1,523,259	0.631	43.36	496	0.485	33.33	369
May 09	5,109	11,113	113,553	1,512,169	0.613	34.80	492	0.457	25.95	366
June 09	5,630	11,214	126,270	1,517,808	0.58	36.62	494	0.439	27.72	369
Jul 09	5,127	11,174	114,578	1,510,264	0.566	32.43	492	0.44	25.21	367
Aug 09	4,801	11,182	107,370	1,503,565	0.572	30.71	489	0.444	23.84	368
Sept 09	4,428	11,139	98,647	1,491,978	0.514	25.35	484	0.405	19.98	365
Oct 09	6,646	10,980	145,946	1,504,485	0.445	32.47	480	0.412	30.06	367
Nov 09	6,148	11,012	135,404	1,510,730	0.513	34.73	474	0.404	27.35	365
Dec 09	6,495	11,068	143,773	1,520,311	0.411	29.55	468	0.418	30.05	362
Jan 10	6,385	11,096	141,696	1,526,866	0.403	28.55	458	0.41	29.05	356
Feb 10	6,212	11,173	138,813	1,532,671	0.481	33.38	446	0.426	29.57	353
Mar 10	5,878	11,231	132,032	1,532,863	0.485	32.02	437	0.388	25.61	347
Apr 10	6,188	11,174	138,289	1,526,783	0.521	36.02	429	0.423	29.25	343
May 10	6,031	11,244	135,625	1,535,400	0.528	35.81	426	0.452	30.65	344
June 10	6,093	11,193	136,398	1,535,606	0.541	36.90	416	0.424	28.92	342
Jul 10	6,188	11,174	138,289	1,541,103	0.529	36.58	409	0.413	28.56	339
Aug 10	6,031	11,244	135,625	1,546,140	0.533	36.14	406	0.414	28.07	336
Sept 10	6,093	11,193	136,398	1,547,570	0.546	37.24	405	0.404	27.55	332
Oct 10	3,835	11,211	85,988	1,544,646	0.446	19.18	402	0.312	13.41	327
Nov 10	5,034	11,127	112,027	1,545,742	0.475	26.61	400	0.387	21.68	326
Dec 10	6,683	11,114	148,550	1,548,371	0.409	30.38	395	0.39	28.97	324
Jan 11	5,899	11,141	131,442	1,551,943	0.348	22.87	392	0.45	29.57	325
Feb 11	5,659	11,106	125,698	1,548,181	0.385	24.20	387	0.417	26.21	325
Mar 11	6,608	11,114	146,883	1,553,366	0.422	30.99	383	0.389	28.57	325
Apr 11	5,533	11,177	123,685	1,546,489	0.671	41.50	383	0.459	28.39	322
May 11	6,372	11,196	142,682	1,561,053	0.535	38.17	384	0.379	27.04	323
June 11	6,229	11,140	138,782	1,567,309	0.563	39.07	385	0.392	27.20	322
Jul 11	6,292	11,342	142,728	1,581,384	0.59	42.10	390	0.358	25.55	323
Aug 11	6,004	11,234	134,898	1,595,148	0.644	43.44	397	0.372	25.09	323
Sept 11	6,114	11,119	135,963	1,613,806	0.583	39.63	404	0.387	26.31	326
Oct 11	6,491	11,095	144,035	1,612,851	0.583	41.99	409	0.393	28.30	325
Nov 11	4,565	11,100	101,343	1,595,821	0.394	19.96	401	0.269	13.63	319
Dec 11	5,700	11,067	126,164	1,587,016	0.404	25.49	399	0.301	18.99	313
Jan 12	7,088	11,065	156,857	1,594,597	0.498	39.06	404	0.32	25.10	311
Feb 12	5,493	11,066	121,571	1,585,976	0.488	29.66	402	0.363	22.07	307
Mar 12	5,052	11,052	111,669	1,575,794	0.426	23.79	398	0.368	20.55	305
Apr 12	4,830	11,100	107,226	1,560,263	0.442	23.70	392	0.292	15.65	298
May 12	5,124	11,112	113,876	1,549,388	0.496	28.24	388	0.298	16.97	291
June 12	4,527	11,186	101,278	1,531,828	0.49	24.81	382	0.32	16.20	285
Jul 12	4,947	11,223	111,040	1,518,204	0.556	30.87	380	0.389	21.60	281
Aug 12	5,220	11,226	117,199	1,508,991	0.532	31.18	377	0.379	22.21	278
Sept 12	5,484	11,207	122,918	1,502,251	0.555	34.11	375	0.405	24.89	277
Oct 12	5,410	11,259	121,822	1,520,168	0.569	34.66	383	0.426	25.95	283
Nov 12	2,389	11,115	53,107	1,490,708	0.314	8.34	374	0.295	7.83	276
Dec 12	6,346	11,070	140,500	1,486,684	0.514	36.11	377	0.448	31.47	278
Maxima				1,613,806			511			369
Corresponding	72,325	11,158								
2011		11,153	1,594,301		0.510	409.40		0.381	304.85	
2012		11,140	1,379,066		0.490	344.52		0.359	250.49	
Average 11-12		11,146	1,486,684		0.500	376.96		0.370	277.67	

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Mod No.: 157-35854-00003
Significant Permit Mod No.: 157-36009-00003
Reviewer: Julie Mendez, Ph.D.
Date: May 22, 2015

Belt Dryer System Shutdown Units Baseline Actual Emissions (BAE)

Data Element	Data Designation	Value		Reference/Calculation
Baseline Period		1/2011 - 12/2012		
Special Starch Belt Dryer (16D5)				
16F27 Scrubber				
Operating Hours	[A]	7,235	hrs/yr	= Annual average hours of operation
Scrubber Exhaust Air Flow	[B]	31,500	acfm	Design value
Scrubber Exhaust Loading	[C]	0.0094	gr/acf	MRI test data summary for Starch Manufacturing Industry; 9/29/94. Average of test data for belt dryer with waste heat recovery = 0.010 gr/dscf, converted to gr/acf
PM2.5 / PM10 Ratio	[D]	0.66092		Ratio for SCC 30201401
Emissions				
PM	[E]	9.18	tons/yr	= [C] * [B] * 60 min/hr * [A] / 7,000 gr/lb / 2,000 lb/ton
PM10	[F]	9.18	tons/yr	= [E]
PM2.5	[G]	6.07	tons/yr	= [F] * [D]
17F29 Scrubber				
Operating Hours	[H]	7,293	hrs/yr	= Annual average hours of operation
Scrubber Exhaust Air Flow	[I]	16,800	acfm	Design value
Scrubber Exhaust Loading	[J]	0.0094	gr/acf	MRI test data summary for Starch Manufacturing Industry; 9/29/94. Average of test data for belt dryer with waste heat recovery = 0.010 gr/dscf, converted to gr/acf
PM2.5 / PM10 Ratio	[K]	0.66092		Ratio for SCC 30201401
Emissions				
PM	[L]	4.94	tons/yr	= [J] * [I] * 60 min/hr * [H] / 7,000 gr/lb / 2,000 lb/ton
PM10	[M]	4.94	tons/yr	= [L]
PM2.5	[N]	3.26	tons/yr	= [M] * [K]
Belts Product Conveying mill Product to Bins 1, 2, 3 (7F25)				
Operating Hours	[O]	7,235	hrs/yr	= Annual average hours of operation
Bin Vent Air Flow	[P]	300	acfm	Design value
Bin Vent Exhaust Loading	[Q]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/adf
PM2.5 / PM10 Ratio	[R]	0.54762		Ratio for SCC 30201401
Emissions				
PM	[S]	0.05	tons/yr	= [Q] * [P] * 60 min/hr * [O] / 7,000 gr/lb / 2,000 lb/ton
PM10	[T]	0.05	tons/yr	= [S]
PM2.5	[U]	0.03	tons/yr	= [T] * [R]
Product Bin #1 (7V50)				
Operating Hours	[V]	7,235	hrs/yr	= Annual average hours of operation
Bin Vent Air Flow	[W]	750	acfm	Design value
Bin Vent Exhaust Loading	[X]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/adf
PM2.5 / PM10 Ratio	[Y]	0.54762		Ratio for SCC 30201401
Emissions				
PM	[Z]	0.12	tons/yr	= [X] * [W] * 60 min/hr x [V] / 7,000 gr/lb / 2,000 lb/ton
PM10	[AA]	0.12	tons/yr	= [Z]
PM2.5	[BB]	0.06	tons/yr	= [AA] * [Y]
Product Bin #2 (7V49)				
Operating Hours	[CC]	7,235	hrs/yr	= Annual average hours of operation
Bin Vent Air Flow	[DD]	750	acfm	Design value
Bin Vent Exhaust Loading	[EE]	0.005	gr/acf	No test data available; design = 0.01 gr/scf; conservativley assume 0.005 gr/adf
PM2.5 / PM10 Ratio	[FF]	0.54762		Ratio for SCC 30201401
Emissions				
PM	[GG]	0.12	tons/yr	= [EE] * [DD] * 60 min/hr * [CC] / 7,000 gr/lb / 2,000 lb/ton
PM10	[HH]	0.12	tons/yr	= [GG]
PM2.5	[II]	0.06	tons/yr	= [HH] * [FF]
Total Emissions				
PM		14.40	tons/yr	
PM10		14.40	tons/yr	
PM2.5		9.48	tons/yr	

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Mr. Richard L. Dickinson
Tate & Lyle Ingredients Americas LLC
2200 East Eldorado Street
Decatur, Illinois 62525

DATE: November 18, 2015

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V – Significant Permit Modification
157-36009-00003

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Todd E. Davis, Plant Manager
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

November 18, 2015

TO: Tippecanoe County Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Tate & Lyle Ingredients Americas LLC
Permit Number: 157-36009-00003

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 8/27/2015

Mail Code 61-53

IDEM Staff	VBIDDLE 11/18/2015 Tate & Lyle Ingredients Americas LLC (North Plant) 157-36009-00003 FINAL		
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee / Remarks
1		Richard L Dickinson Tate & Lyle Ingredients Americas LLC (North Plant) 2200 East Eldorado Street Decatur IL 62525 (Source CAATS) VIA CERTIFIED MAIL USPS									
2		Todd E Davis Plant Manager Tate & Lyle Ingredients Americas LLC (North Plant) 2245 North Sagamore Parkway Lafayette IN 47902 *(RO CAATS)*									
3		Mr. Elliott McKinnis 2605 Yeager Road W. Lafayette IN 47906 *(Affected Party)*									
4		Mr. Dan Altepeter 1161 E 430 S Lafayette IN 47909 *(Affected Party)*									
5		Ms. Linda Foster 3336 Ingram Ct Lafayette IN 47909 *(Affected Party)*									
6		Mr. John Cooper 3032 Ute Ln Lafayette IN 47909 *(Affected Party)*									
7		Tippecanoe County Commissioners 20 N 3rd St, County Office Building Lafayette IN 47901 *(Local Official)*									
8		Lafayette Fire Department 443 North 4th Street Lafayette IN 47901 *(Affected Party)*									
9		Tippecanoe County Health Department 20 N. 3rd St Lafayette IN 47901-1211 *(Health Department)*									
10		Lafayette City Council and Mayors Office 20 North 6th Street Lafayette IN 47901-1411 *(Local Official)*									
11		Tippecanoe County Public Library 627 South Street Lafayette IN 47901-1470 *(Library)*									
12		Mr. Richard Hines P.O. Box 180 Lafayette IN 47902 *(Affected Party)*									
13		Mr. Robert Dexter 2158 Ulen Ln Lafayette IN 47904-1623 (Affected Party)									
14		Ms. Geneva Werner 3212 Longlois Drive Lafayette IN 47904-1718 *(Affected Party)*									
15		Ms. Denice Loveless 1319 North 15th Street Lafayette IN 47904-2115 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
14			

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	VBIDDLE 11/18/2015 Tate & Lyle Ingredients Americas LLC (North Plant) 157-36009-00003 FINAL		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Charles 700 N. 28th St. Lafayette IN 47904-2705 (Affected Party)									
2		Mr. James Burkett 1115 E Evans St Springfield MO 65810-2926 *(Affected Party)*									
3		Mr. Robert Laird 2005 Platte Dr. Lafayette IN 47905 *(Affected Party)*									
4		Mr. Wendell Wiley 112 Peppertree Ct. Lafayette IN 47905 *(Affected Party)*									
5		Ms. Sarah Templin Vinton Woods Club 3516 Mulberry Dr. Lafayette IN 47905 *(Affected Party)*									
6		Mr. Charles Craw 3624 Cypress Lane Lafayette IN 47905 *(Affected Party)*									
7		City Council Representative, District 4 1227 Catula Ave. Lafayette IN 47905 *(Affected Party)*									
8		Mr. John Gladden 2413 Natalie Lane Lafayette IN 47905 *(Affected Party)*									
9		Mr. Jake Blair 3481 US 52 S Lafayette IN 47905 *(Affected Party)*									
10		Mr. Roy Borden 146 Bordequx Boulevard Lafayette IN 47905 *(Affected Party)*									
11		Ms. Evelyn Briggs 213 Fairington Ct, Apt 19 Lafayette IN 47905-4821 *(Affected Party)*									
12		Ms. Deborah Deel 112 Bordeaux Boulevard Lafayette IN 47905 *(Affected Party)*									
13		Ms. Kathleen Dirosaria 1502 Virginia Street Lafayette IN 47905 (Affected Party)									
14		Ms. Cheryl Hartman 148 Bordeaux Boulevard Lafayette IN 47905 *(Affected Party)*									
15		Ms. Norma Kessen 2513 Shasta Dr Lafayette IN 47909 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
15			

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	VBIDDLE 11/18/2015 Tate & Lyle Ingredients Americas LLC (North Plant) 157-36009-00003 FINAL		
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Mr. Richard Land 109 Bordeaux Boulevard Lafayette IN 47905 (Affected Party)									
2		Ms. Scarlett Manion P.O. Box 6592 Lafayette IN 47903 *(Affected Party)*									
3		Ms. Donna Patton 13 Rene Blvd Lafayette IN 47905 *(Affected Party)*									
4		Ms. Dianna Velter 88 Deveraux Circle Lafayette IN 47905 *(Affected Party)*									
5		Sanctuary Homeowners 3511 Pintail Drive Lafayette IN 47905 *(Affected Party)*									
6		Mary Ann and Bruce Junius 1625 Cottonwood Cr. Lafayette IN 47905 *(Affected Party)*									
7		Ms. Vickie Richardson 2726 Vinton St. Lafayette IN 47904-1761 *(Affected Party)*									
8		Mr. Michael Smith 1824 Arcadia Drive Lafayette IN 47905 *(Affected Party)*									
9		Mr. Howard Helfrich 1517 W Hawkes St, Unit 1 Arlington Heights IL 60004-7478 *(Affected Party)*									
10		Mrs. Phyllis Owens 3600 Cypress Lane Lafayette IN 47905 *(Affected Party)*									
11		Ms. Connie Wagner 803 Greenwich Road Lafayette IN 47905-4324 *(Affected Party)*									
12		Ms. Jennifer Schramm 3614 E. County Road 200 N. Lafayette IN 47905-7852 *(Affected Party)*									
13		Mr. Kevin Lynch 3614 E. County Road 200 N. Lafayette IN 47905-7852 (Affected Party)									
14		Mrs. Robin Mills Ridgeway 3614 East County Road 200 North Lafayette IN 47905-7852 *(Affected Party)*									
15		Ms. Wendy Liphard 6830 S. 775 E. Lafayette IN 47905-9331 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
15			

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	VBIDDLE 11/18/2015 Tate & Lyle Ingredients Americas LLC (North Plant) 157-36009-00003 FINAL		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee / Remarks
1		Mr. Jim Holt 3408 Ingram Court Lafayette IN 47909-6380 (Affected Party)									
2		Mr. Aaron Martin 311 Sylvia St West Lafayette IN 47906 *(Affected Party)*									
3		Mr. Dor Ben-Amotz 3275 W450 North West Lafayette IN 47906 *(Affected Party)*									
4		Mr. John Percifield 400 Overlook Dr. West Lafayette IN 47906 *(Affected Party)*									
5		Ms. Mary Blignant 5421 Hillside Lane West Lafayette IN 47906 *(Affected Party)*									
6		Mr. Jerry White 4317 Amesbury Drive West Lafayette IN 47906 *(Affected Party)*									
7		Ms. Meredith Richmond & Richard Fudge 106 Main St Battle Ground IN 47920 *(Affected Party)*									
8		Ms. Susan Mollenkope 2304 Wigeon Drive Lafayette IN 47905 *(Affected Party)*									
9		Ms. Rose Filley 5839 Lookout Drive West Lafayette IN 47906 *(Affected Party)*									
10		Ms. Sue Scott 2605 Yeager Rd West Lafayette IN 47906 *(Affected Party)*									
11		Mr. William Cramer 128 Seminole Drive West Lafayette IN 47906 *(Affected Party)*									
12		Mr. Emil Berndt 30 Merlin Ct Lafayette IN 47905-9689 *(Affected Party)*									
13		Ms. Debra Bruce 1816 Tanglewood Dr Lafayette IN 47905 (Affected Party)									
14		Ms. Judy Dellinger 1901 Tanglewood Dr Lafayette IN 47905 *(Affected Party)*									
15		Mrs. Rae Schnapp 315 1/2 W Oak St W. Lafayette IN 47906 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	
15			The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	VBIDDLE 11/18/2015 Tate & Lyle Ingredients Americas LLC (North Plant) 157-36009-00003 FINAL		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Robert Iden & Dorothy Brunson 3827 Harry Ave Lafayette IN 47904 (Affected Party)									
2		Ms. Magie Read P.O. Box 248 Battle Ground IN 47920 *(Affected Party)*									
3		Ms. Trudi Wildfener 3575 Canterbury Lafayette IN 47909 *(Affected Party)*									
4		Ms. Cynthia Clawson 2778 Alexandria Ct Lafayette IN 47909 *(Affected Party)*									
5		M. Drummond 915 N Chauncey Ave West Lafayette IN 47906 *(Affected Party)*									
6		Ms. Nancy Morton 811 Carrolton Blvd West Lafayette IN 47906 *(Affected Party)*									
7		Mr. Roger Lipioli 677 N 36th Lafayette IN 47905 *(Affected Party)*									
8		Ms. Susan Lipioli 549 Jonathan Way Lafayette IN 47905 *(Affected Party)*									
9		Mr. Mark Linden 3602 Clover Ln Lafayette IN 47905 *(Affected Party)*									
10		Ms. Sharon Baumis 2233 Huron Rd West Lafayette IN 47906 *(Affected Party)*									
11		Karen & John Siemers 1900 Perrins St Lafayette IN 47904 *(Affected Party)*									
12		Ms. Tracy Walder 1937 Maple St Lafayette IN 47904 *(Affected Party)*									
13		Ms. Barbara Burroughs 2204 N 20th Lafayette IN 47904 (Affected Party)									
14		Ms. Diane Fritschler 304 Meridian West Lafayette IN 47906 *(Affected Party)*									
15		Ms. Elizabeth Neil 206 Dehart St West Lafayette IN 47906 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
15			

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	VBIDDLE 11/18/2015 Tate & Lyle Ingredients Americas LLC (North Plant) 157-36009-00003 FINAL		
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Stan 705 N Chauncey St West Lafayette IN 47906 (Affected Party)									
2		Ms. Tracy Trice 2925 Wilshire Avenue West Lafayette IN 47906 *(Affected Party)*									
3		Ms. Susan Dunwoody 3449 Woodfield West Lafayette IN 47906 *(Affected Party)*									
4		Mr. Chuck Krousgrill 1306 Sunset West Lafayette IN 47906 *(Affected Party)*									
5		Ms. Debra Steiner 2110 S. 100 W. Lafayette IN 47909 *(Affected Party)*									
6		Mr. Ron Bailey 3638 Chancellor Way West Lafayette IN 47906 *(Affected Party)*									
7		Ms. Amredhe Datra 108 Spinning Wheel West Lafayette IN 47906 *(Affected Party)*									
8		Mr. Bill Mercier 2809 Covington St West Lafayette IN 47906 *(Affected Party)*									
9		Ms. Sue Owens 7572 Birkner Dr Kent OH 44240 *(Affected Party)*									
10		Lon & Lauretta Heide 40 Gregory Court Lafayette IN *(Affected Party)*									
11		Mr. Brandt Hershman PO Box 177 Buck Creek IN 47924 *(Affected Party)*									
12		Mr. Patrick Grimes 443 N 4th Street Lafayette IN *(Affected Party)*									
13		R.J. Beck 20 N. 3rd Street Lafayette IN (Affected Party)									
14		Mr. Marvin Wiederhold 2809 N. 400 West West Lafayette IN *(Affected Party)*									
15		Ms. Melissa Weast Williamson 2905 Beverly Lane Lafayette IN *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
15			

FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	VBIDDLE 11/18/2015 Tate & Lyle Ingredients Americas LLC (North Plant) 157-36009-00003 FINAL		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee / Remarks
1		Ed 316 Ferry Street Lafayette IN 47904 (Affected Party)									
2		Vicki Sines 8625 E. 375 S. Lafayette IN 47905 *(Affected Party)*									
3		West Lafayette City Council and Mayors Office 609 W. Navajo West Lafayette IN 47906 *(Local Official)*									
4		Mr. Allen Hoffman 4740 Masons Ridge Rd. Lafayette IN 47909 *(Affected Party)*									
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	
4			The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

FACSIMILIE OF PS Form 3877